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ABSTRACT

Information on the relation between the output of postsecondary education in Texas and career opportunities in the job market is presented to help promote career decision-making. Vocational and academic programs that are overproducing, underproducing, or in balance relative to occupational openings in the state are identified. The information is valid until May 1987. Tables contain statewide consolidated information on supply and demand conditions for various college programs: descriptive ratings of employment opportunities for each program (i.e., excellent, very good, balanced, competitive, and keenly competitive); the number of program graduates or qualified completers who will be entering the job market; the number of job openings in occupations related to each program of study; expected employment opportunity conditions by field, 1990-1991 (i.e., definite improvement, some improvement, about the same, some decline, definite decline); average salary range for 1984 graduates by field; and directly or closely related occupations for each field of study. The following types of programs are covered: professional, baccalaureate and graduate, and vocational education. Program indexes and cross references of occupations and related programs are included. (SW)

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POSTSECONDARY OCCUPATIONAL SUPPLY AND OCCUPATIONAL DEMAND IN TEXAS

ED267706

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Information in this report is valid until May 1987

This Report was prepared by:

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POSTSECONDARY EDUCATIONAL SUPPLY AND OCCUPATIONAL DEMAND IN TEXAS

Spring, 1985

INTRODUCTION

PURPOSE: The purpose of this report is to provide information on the relation between the output of postsecondary education in Texas and career opportunities in the job market. Specifically, it is the intent of this report to identify those vocational and academic programs which are overproducing, underproducing, or in balance relative to occupational openings in the state. With this type of knowledge available to counselors, students, parents, and educational administrators, better-informed decisions can be made regarding a student's career choice.

GENERAL INFORMATION: This is the sixth in a series of postsecondary educational supply and occupational demand reports published by the State 1202 Commission and the Coordinating Board, Texas College and University System. The information in this report is valid until May 1, 1987, and supersedes data in previous reports. Supply-demand comparisons in this report represent statewide conditions.

REPORT ORGANIZATION: This report consists of two sets of tables: (1) Baccalaureate, Graduate, and Professional Level Programs and (2) Vocational Education Programs at the Certificate and Associate Degree Level.*

Tables contain the following statewide consolidated information:

Supply-demand conditions and related information are displayed by programs of study, which are identified by program area and title.

Short-term supply-demand conditions are shown by two methods. The first is a descriptive rating for employment opportunities using the following terms:

EXCELLENT - Demand is much greater than supply
VERY GOOD - Demand is greater than supply
BALANCED - Demand and supply are approximately equal
COMPETITIVE - Demand is less than supply
KEENLY COMPETITIVE - Demand is much less than supply

*"Certificate" as used in this publication means a postsecondary vocational-technical program composed of approximately nine (9) to eighteen (18) months of instruction. In these programs the "core" supporting and general education subjects are usually combined into units so that the level and amount of instruction in each area are not identifiable. The unit of measurement used for these programs is usually the number of "clock-hours" of lecture and laboratory time required for graduation. Certificate programs may be offered by degree or non-degree granting post-secondary institutions. "Associate Degree" means a two-year college-level program composed of approximately 60-66 semester credit hours. Core or major-supporting and general education subjects are usually broken into discrete courses of 3-4 semester credit hours each. Only collegiate-level institutions may offer these programs.

The second method of indicating short-term supply-demand conditions is by statistical comparison. "Market Supply" refers to the number of program graduates or qualified completers expected to be entering the job market. This number excludes graduates and completers who are not expected to enter the job market for one of the following reasons: held the same job prior to completing the course of study, will continue education on a full-time basis, or not seeking employment for some other reason. The number of job openings available in occupations related to each program of study is also shown. The allocation of openings is based on the following occupation-program relations:

DIRECTLY RELATED - The highest level of relationship between occupation and program. The primary purpose of the program is to provide all of the skills required by the occupation.

CLOSELY RELATED - The program provides training that is closely related to the requirements of the occupation, even though the primary purpose may not be directly associated with the occupation.

GENERALLY RELATED - The program provides students with the skills which enable them to meet general requirements of the occupation, but the program is not designed to address specific needs of the occupation.

The average annual salary range for 1984 graduates is based on information collected from multiple sources in the summer and early fall of 1984.

The expected change in employment opportunities over the next five years (to 1990-1991) is expressed in one of the following terms:

DEFINITE IMPROVEMENT - Employment opportunities will be much better.

SOME IMPROVEMENT - Employment opportunities will be somewhat better.

ABOUT THE SAME - No significant change.

SOME DECLINE - Employment opportunities will be somewhat worse.

DEFINITE DECLINE - Employment opportunities will be much worse.

Directly and closely related occupations associated with each program of study are listed under the heading "Related Occupations." Generally related occupations are not listed for individual programs; however, they were considered in determining the total number of job openings available.

Comments are provided to highlight changes from previous reports, to explain apparent inconsistencies between descriptive ratings and statistical data, to expand on occupational information, or to call attention to specific relationships between the program and the job market.

SOURCE DATA AND METHODOLOGY: Information in this report was derived from statewide surveys and computations of supply-demand information by computer processing. There was a high degree of correspondence between survey results and the data processing output.

Statewide Surveys: During the summer and fall of 1984, the Office of Financial Planning, Studies, Coordinating Board, Texas College and University System conducted two surveys that were primary sources of data used in the findings of this report.

Institutional Survey: A survey was distributed to all public and independent senior colleges and universities, public junior/community colleges and the Texas State Technical Institute campuses, as well as to schools of medicine and allied health. Responses were received from 65 institutions offering professional, graduate, or baccalaureate level programs and 58 institutions offering associate degree or certificate level programs.

Survey of May 1984 Senior College Graduates: A follow-up survey was conducted of a selected sample of 17,288 May 1984 graduates from 13 public and 3 independent senior colleges and universities. This sample included graduates from all major fields of study at the baccalaurate, master's, and doctoral levels. There were 11,472 responses (66.4 percent response rate) to this survey. Respondents supplied information on their employment status or intent after graduation, and, if employed, the job title, relation of the job to the program completed, location of employment, and annual salary.

Vocational Education Data System (VEDS): The Texas Education Agency (TEA) usually provides information on program completers from the public institutions offering vocational programs. This information was not available for this report. Consequently, the number of completers for the 1980-1981 school year with employment status and graduates for the 1981-1982 school year by program of study were projected using weighted growth predictions from the community/junior colleges as indicated in the survey results. Therefore, the 1986 market supply figures for each program are extrapolated from old data.

Computerized Supply-Demand Statistical Comparisons: The number of job openings available for each postsecondary program was determined by a computerized procedure. This procedure compared the expected supply for each program with the expected number of job openings (demand) for occupations related to the program area.

The expected number of annual openings by occupation was provided by the Texas Employment Commission. These openings include both replacement and expansion needs. The total expected openings were then distributed by educational levels. This was accomplished by the application of educational requirements for each occupation and by historical patterns and trends relative to the educational levels of the Texas labor force.

The expected supply to the labor market was obtained by projecting program outputs from all available postsecondary educational training sources and determining the portion of this output from each program that will be competing for openings in the job market. The latter procedure was accomplished by using the most recent student follow-up information to establish a basis for "factoring out" program completers who are already working, were planning to continue their education full-time, or were not entering the job market for some other reason.

For further detail concerning the program methodology, questions can be directed to the Director, Financial Planning, Studies, Coordinating Board, Texas College and University System, P.O. Box 12788, Capitol Station, Austin, Texas 78711.

POSTSECONDARY EDUCATIONAL SUPPLY AND OCCUPATIONAL DEMAND IN TEXAS

Summary

The current forecast of employment opportunities for completers of Texas postsecondary educational programs reflects a mixed picture of economic growth. The national recession in 1981 and 1982 refuted the belief that Texas was insulated from national economic fluctuations. While it is true that Texas entered the recession later than most of the nation, it has also lagged in the recovery process. Even so, at the beginning of 1985, economic indicators for Texas were strong in comparison with most states. As the recovery continues in 1985, sectors which are expected to represent the largest portion of the Texas economy are wholesale and retail trade; finance, insurance and real estate; and manufacturing. The construction industry is expected to maintain about the same share of the total economy as before. The mining and extraction industry is predicted to lag behind the rest of the economy. Although the current recovery is based on a more diversified economy than before the recession, energy-related products still play a major role in the Texas economy—especially for some geographic areas of the state. The uncertainty regarding the price of oil and the overall future of energy-related industries leaves room for doubt as to how complete the Texas economic recovery will be during 1985 and 1986. The Texas Employment Commission projects that there will be over 530,000 annual average job openings during the remainder of the 1980's and the 1990's. This is based on a yearly job growth rate of about 3.4 percent. However, some economists predict that the lagging energy industry will cause the rate to slow to about 2 percent annually. If such is the case, the number of jobs will be proportionately reduced. It should also be noted that many of the expected jobs are in fields such as sales, services, clerical, crafts, and operatives at lower levels which do not require a postsecondary education. This fact also narrows the number of appropriate jobs expected to be available for postsecondary educational graduates. On the high side, the approximate number of jobs expected to be available each year for persons with postsecondary training is 210,000 using the optimistic growth rate, and 165,000 using the lower rate. The lower range is slightly larger than the number of persons who complete postsecondary educational programs in Texas each year. However, several factors must be considered when comparing overall labor market demand with expected supply. The type of jobs compared to the qualification of the job seekers becomes very important, as does the distribution of jobs both geographically and by occupational type. Also, Texas will continue to be an area with a high level of workers entering from outside the state, who will account for a substantial number of the available jobs.

Employment Outlook for the College Graduate

The overall employment outlook for college graduates has not changed appreciably from what is was two to four years ago. That is, the requirement for college graduates in the labor force will not keep pace with supply. In spite of this, as pointed out by a recent study conducted by the American Council on Education, a college degree remains a good investment because (1) income expectations are higher, and (2) the probability of unemployment is lower when compared to persons with less education. While the probability of some type of employment is good for college graduates, many will be required to take jobs which do not require their level of education, and jobs which are not related to their field of study. In a recent survey of May 1984 graduates of Texas universities, 24.6 percent of the graduates reporting that they found employment said the job they were in was not directly or closely related to the degree program they completed. This varied considerably by type of degree, as shown below:

Degree Area	Percent reporting job was not directly or closely related
Liberal Arts	56.5%
Science	33.5%
Fine Arts	44.5%
Education	21.7%
Agriculture	28.4%
Engineering	10.7%
Home Economics	31.3%
Health Professions	5.6%
Business Administration	21.3%

This distribution generally reflects the expected outlook for employment in the different occupational categories. In areas which are expected to offer the best opportunities, such as health, engineering, education, and business, a larger proportion of graduates found directly or closely related jobs.

Summary data of employment opportunities and 1984 salaries for job seekers who have completed graduate degree and baccalaureate degree programs are shown on the charts, Figure 1 and Figure 2. More detailed information on individual programs is given in the tables which begin on page 9.

Employment Outlook for Completers of Postsecondary Vocational Programs

Tomorrow's economy, like today's, will require workers in many different occupations. The number and kinds of workers needed for various occupations will depend on the interplay of demographic, economic, social, and technological factors. Approximately 30 percent of the new workers in the Texas labor force are expected to be persons with some technical vocational education beyond high school. The occupational areas which have relatively high percentage of workers with postsecondary educational training at the trade school and 1-3 year college level are professional and technical; managers and officials; office and clerical; and craft workers. Some of the occupations in these areas which are expected to have a high volume of demand during the remainder of the 1980s are: secretaries, office clerks, store managers, nurses, accountants, bookkeepers and accounting clerks, maintenance repairers, automotive mechanics, welders, drafters, electrical and electronic technicians, and plumbers.

Job opportunities in vocational programs in Texas have not changed a great deal in the past two years. Three programs are rated EXCELLENT in this report: Restaurant Management; Court Reporting; and Heavy Equipment Maintenance and Repair. On the other end of the spectrum, five programs are rated as COMPETITIVE, they are: Forestry Production and Processing, General; Agricultural Mechanics, General; Environmental Control Technologies, Other; Teacher Aide; and Transportation and Travel Marketing, General. The over 100 remaining programs are either VERY GOOD or BALANCED. This confirms what the U.S. Department of Labor, Bureau of Labor Statistics has indicated in the past; employment is expected to increase in almost all occupations through the 1980s. This trend has continued since the 1983 Supply-Demand report and is evidenced in Figure 3 on page 8 in this report. More detailed information on individual programs is given in the tables beginning on page 62.

SUMMARY DATA: JOB OPPORTUNITIES AND SALARIES FOR GRADUATE DEGREE PROGRAMS

FIGURE 1

SHORT TERM EMPLOYMENT OPPORTUNITY	ANNUAL AVERAGE SALARY RANGE FOR 1984 GRADUATES				
	$13,000 - $17,000	$17,000 - $20,000	$20,000 - $25,000	$25,000 - $30,000	OVER $30,000
EXCELLENT		Health Records Admin	Physical Therapy		Computer Engineering
VERY GOOD		Agronomy Bilingual/Bicultural Ed. Criminal Justice Studies Elementary Education Forestry & Related Sci Library Science Occupational Therapy Secondary Education Special Education Textiles & Clothing	Accounting Education, Other Food Sci & Human Nutrition Marketing Nursing, General Secretarial & Related Vocational Education	Business Data Processing Chemistry Civil Engineering Computer & Info Science Mathematics Pharmacy Physics	Electrical Engineering Engineering, Other Mechanical Engineering
BALANCED	Journalism (Mass Comm)	Advertising Agricultural Business & Mgmt Animal Science, General Architecture Biology Foreign Language, Multi-Emp Geography Health & Physical Education Health Sciences, Other Home Economics, General Horticulture Science Life Sciences, Other Medical Technology Music, General Psychology Radio/Television, General Range Management Religion Social Work, General Spanish Speech, Debate & Forensics Visual Arts Zoology	Agricultural Business Biochemistry/Biophysics Business & Mgmt, General Business Management Education Administration Economics Family Relations Health Care Administration Student Counseling Technology	Finance Geology Industrial Engineering	Aerospace Engineering Chemical Engineering Petroleum Engineering
COMPETITIVE	Dramatic Arts Philosophy Social Sciences, General	Animal Science, Other Anthropology English History Liberal/General Studies Political Sci & Government Public Affairs Sociology	Astronomy		

SUMMARY DATA: JOB OPPORTUNITIES AND SALARIES FOR BACCALAUREATE DEGREE PROGRAMS
FIGURE 2

SHORT TERM EMPLOYMENT OPPORTUNITY	ANNUAL AVERAGE SALARY RANGE FOR 1984 GRADUATES				
	$13,000 - $16,000	$16,000 - $18,000	$18,000 - $20,000	$20,000 - $25,000	$25,000-$30,000
VERY GOOD	Biochemistry/Biophysics Horticulture Science Library Science	Bilingual/Bicultural Ed Education, Other Elementary Education Food Sci & Human Nutrition Medical Technology Nursing, General Secondary Education Secretarial & Related Special Education Vocational Education	Accounting Chemistry Medical Records Admin Occupational Therapy Physical Therapy	Business Data Processing Computer & Info Science Mathematics Physics	Computer Engineering Electrical Engineering Industrial Engineering Mechanical Engineering Pharmacy
BALANCED	Advertising Animal Science, General Biology English Family Relations Foreign Language, Multi-Emp Health Sciences, Other Journalism (Mass Comm) Radio/Television, General Religion Social Work, General Spanish Speech, Debate & Forensics Textiles & Clothing	Agricultural Business Agricultural Business & Mgmt Agronomy Architecture Criminal Justice Studies Forestry & Related Sci Health & Physical Education Health Care Administration Home Decorating Home Economics, General Hotel/Motel Management Life Sciences, Other Marketing Music, General Parks & Recreation Zoology	Business & Mgmt, General Business Management Economics Finance	Civil Engineering Technology	Aerospace Engineering Engineering, Other Petroleum Engineering
COMPETITIVE	Anthropology Astronomy Dramatic Arts History Philosophy Psychology Public Affairs Social Sciences, General Sociology Visual Arts, General	Animal Science, Other Political Sci & Government Range Management Student Counseling	Geography Liberal/General Studies	Geology	Chemical Engineering Petroleum Land Management

SUMMARY DATA: JOB OPPORTUNITIES AND SALARIES FOR POSTSECONDARY VOCATIONAL PROGRAMS
FIGURE 3

SHORT TERM EMPLOYMENT OPPORTUNITY	ANNUAL AVERAGE SALARY RANGE FOR 1984 GRADUATES				
	$9,000 - $11,000	$11,000 - $14,000	$14,000 - $17,000	$17,000 - $20,000	OVER $20,000
EXCELLENT			Restaurant Management		Court Reporting Hvy. Equip. Maint. & Rep.
VERY GOOD	Child Care and Guidance Management and Services, Other	Accounting and Computing Agri. Bus. & Mgmt., Gen. Allied Health, Other Business and Office, Other Bus. Comp. & Console Op. Communication Tech, Other EMT - Paramedic Food Marketing, General General Marketing, Other Medical Assisting Medical Records Technology MH/HS Technology Musical Instrument Repair Occupational Therapy Ass't Ophthalmic Dispensing Physical Therapy Assisting Practical Nursing Recreational Therapy Tech Sec. & Related Prog., Gen. Small Engine Repair Typ., Gen. Of., & Rel. Prog. Watch Repair/Jewelry Design Fabrication and Repair	Auto Body Repair Auto Mechanics Banking Marketing Building Maintenance Business Data Programming Criminal Justice Tech Data Processing Diesel Engine Mechanics Electronic Technology Food Production, Management and Services, General General Office Clerk Graphic and Printing Communications, General Heating and Air Conditioning Industrial Electronics Indus. Prod. Tech., Other Legal Assisting Mechanical Design Tech Nursing, General Respiratory Therapy Technology Word Processing	Agricultural Products and Processing, General Biomedical Equipment Technology Business Administration and Management, General Electrical and Electronics Equipment Repair, Gen Engineering and Engineering-Related Technologies, Other Insurance Marketing, General Nuclear Technologies, Other Oceanographic (Physical) Technology Plumbing	Chemical Technology Civil Technology Electromechanical Instrumentation and Maintenance Technologies, Other Vehicle and Equipment Operation, General
BALANCED	Fashion Merchandising Nursing Assisting Ward Clerk	Agricultural Services and Supplies, General Animal Production Barbering/Cosmetology Dental Assisting Dental Laboratory Technology Fashion/Fabric Coordination Protective Services, Other Radio and TV Production and Broadcasting Technology Small Appliance Repair Solar Heating and Cooling Technology Surgical Technology Upholstering	Aircraft Mechanics Arch. Design & Cons. Tech. Architectural Drafting Commercial Art Commercial Photography Credit Marketing Dietetic Aide/Assisting Drafting and Design Tech Drafting, General Electrical Technology Farm and Ranch Management Horticulture, General Hotel/Motel Management Interior Design Mach. Tool Oper./Mach. Shop Mail and Order Clerk Marketing Management Medical Laboratory Tech Radiograph Medical Tech Real Estate, General Rehabilitation Services, Other Sheet Metal	Airplane Piloting and Navigation Air Transportation, Gen/ Aviation Management Dental Hygiene Firefighting Laser Electro-Optic Tech Welding, Brazing and Soldering	Automobile Vehicles and Accessories Marketing Construction Trades, Other Occupational Safety and Health Technology Petroleum Technology
COMPETITIVE	Forestry Production and Processing, General	Agri. Mech., General Environ. Control Tech. Teacher Aide		Transportation and Travel Marketing, General	

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BACCALAUREATE AND GRADUATE LEVEL PROGRAMS

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EXPLANATION OF TABLES FOR PROFESSIONAL, GRADUATE, AND BACCALAUREATE LEVEL PROGRAMS

Organization of tables: The senior college programs are grouped into broad program areas as follows:

Professional Degree Programs

- Medical and Dental
- Veterinary Medicine
- Law

Baccalaureate and Graduate Degree Programs

- Agriculture
- Biological and Physical Science
- Business Administration
- Computer Science and Mathematics
- Teacher Education and Library Science
- Engineering and Technology
- Fine and Applied Arts
- Health Professions
- Home Economics
- Liberal Arts, Languages and Journalism
- Social Sciences and Social Work

Each broad program area begins with a brief description of overall employment opportunities, followed by tables which provide more specific information, and a comment section. The contents of the tables are explained in more detail below.

Program area code and title: Programs are identified in the left column of the table by the Classification of Instructional Programs (CIP) codes and titles as defined by the National Center for Education Statistics.

Degree level: This column indicates the degree level for which information is given. The degree level "Graduate" includes both master's and doctoral degrees.

Employment opportunity: Short-term employment opportunities for each degree level are expressed in the following terms: Excellent, Very Good, Balanced, Competitive, Keenly Competitive. These terms are defined in the Introduction, page 1. The ratings given are statewide composites based on survey responses from institutional placement offices and academic deans. Ratings are based on responses from three or more institutions, except as noted in the comment section. Instances where ratings are borderline or vary widely among respondents are also noted in the comment section.

Market ready supply: The market ready supply is a projection of the number of annual graduates from each program, at each degree level, expected to enter the Texas job market. In those cases where the market ready supply was less than 15, comparisons were not meaningful. Therefore, no supply or demand figures are shown in these cases.

Related job openings: The expected number of occupational openings in Texas available to program graduates in 1986 is expressed as a range. The high number represents the total expected job openings based on an assumed average annual growth rate of approximately 3.4 percent. The low end of the range has been adjusted downward in two ways: (1) an assumed average annual growth rate of approximately 2 percent, and (2) allowances for the historical pattern of net in-migration of job seekers to Texas.

Expected employment opportunity conditions (1990-1991): Expected change, if any, in supply-demand conditions over the five-year period ending in 1990-1991 is expressed in one of the following terms: Definite Improvement, Some Improvement, About the Same, Some Decline, or Definite Decline. These terms are defined in the Introduction, page 2.

Average annual salary range for 1984 graduates: Salary information is based on individual graduate surveys, institutional placement experiences, records from state agencies, and studies by organizations. All figures are annual average salaries for the year 1984. It is important to note that these salary data apply to the early part of 1984 and that no attempts have been made to account for differences in geographic areas, qualifications of job seekers, or type of employment. Therefore, the salaries listed are valid only as general guidelines.

Directly or closely related occupations: Occupations listed are those which are considered to be directly or closely related to the program of study as defined in the Introduction, page 2. Job titles are based on the Occupational Employment Statistics (OES) dictionary titles as utilized by the Texas Employment Commission. Most of these titles are broad in scope. Many postsecondary educational programs provide students with skills which meet general requirements in several occupations, but the program is not designed to meet the specific needs of these occupations. While these generally related occupations may not be listed in the tables, graduates of many programs would meet requirements for these occupations. Approximately 10,000 occupational openings which fall into this category are available to college graduates. Some of the most common of these occuaptions are:

Other Managers
Other Professional Workers
Other Service Workers
Secretaries
Teacher Aides
Sales Agents and Representatives, Real Estate
Nonworking Supervisors
Clerical Supervisors
Flight Attendants
Sales Workers and Sales Clerks
Receptionists, Hosts and Hostesses
Blue Collar Working Supervisors
Sales Agents and Representatives, Insurance

General comments regarding data in the tables: Employment opportunity ratings are designed to depict the best estimate of statewide employment conditions for all graduates of Texas postsecondary programs considered as a group. Individuals should expect to encounter variances from these ratings based on their own qualifications or the geographic area involved.

This publication focuses on specific jobs and specific degrees. As a result, it is often difficult to correlate liberal arts degrees with specific job openings. This should not be interpreted as advising students not to major in the liberal arts if they wish to do so. Liberal arts majors take jobs in a variety of fields and usually perform well in their chosen careers. It is equally important to note that the emphasis of this report upon fields of employment which often require specialized education and training is in no way intended to indicate that liberal arts courses should be reduced in professional or technical degree programs. Quite the contrary, every college program should contain an appropriate general education component.

Job openings and employment opportunity ratings for graduates with teaching certificates are covered in the tables in the Education section. Therefore, graduates in a particular program area, such as English, Art, Science, Mathematics, Health, etc., who have elementary or secondary school certifications and endorsements should consult the appropriate tables dealing with Education.

OVERALL EMPLOYMENT OPPORTUNITIES FOR GRADUATES OF TEXAS PROFESSIONAL DEGREE PROGRAMS

The tables that follow provide specific information on employment opportunities, beginning salaries, and related occupations for six professional degree programs.

The table on page 13 covers the following Medical and Dental programs:

Dentistry, General
Medicine, General
Chiropractic
Optometry

The table on page 14 covers:

Law

The table on page 14 covers:

Veterinary Medicine

TEXAS PROFESSIONAL DEGREE PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
180401 DENTISTRY, GENERAL See Comment #1	Professional	BALANCED	337	287-436	ABOUT THE SAME	OVER $30,000	College Teachers Dentists Medical Scientists
181001 MEDICINE, GENERAL See Comment #2	Professional	VERY GOOD	1,140	1,036-1,242	ABOUT THE SAME	$20,000-$22,000	College Teachers Medical Scientists Physicians, Medical and Osteopathic Podiatrists
180301 CHIROPRACTIC See Comment #3	Professional	VERY GOOD	100	91-138	ABOUT THE SAME	OVER $30,000	Chiropractors
181201 OPTOMETRY See Comment #4	Professional	BALANCED	95	93-111	ABOUT THE SAME	$27,000-$29,000	Optometrists Opticians

COMMENTS - PROFESSIONAL HEALTH PROGRAMS

1. Dentistry, General: Graduates from Texas dental schools are expected to decline slightly during the next three or four years, then level off at about 300 graduates per year. This will provide a ratio of approximately 50 dentists per 100,000 population in Texas by 1990. In 1982, the ratio of dentists to 100,000 population was approximately 45 in Texas and 55 in the United States as a whole.

2. Medicine, General: In 1980 there were 20,600 physicians in Texas; providing a ratio of approximately 660 persons per physician. The persons to physician ratio for the United States as a whole in 1980 was 585. By 1990 it is estimated that the number of physicians in Texas will be between 30,500 and 33,650. The number of physicians in the state is expected to grow at a slightly higher rate than the overall population; consequently, the persons to physician ratio in 1990 will be less than 600. This is still higher than the person to physician ratio expected for the nation as a whole. Presently, nearly 60 percent of all new physicians in Texas have completed medical training at a school outside the state and migrated to Texas to practice. This situation is expected to continue.

3. Chiropractic: There is no established doctor-to-population ratio for chiropractors. The Texas Board of Chiropractic Examiners certified 102 candidates in 1983 and 139 candidates in 1984. Approximately 40% of the candidates for the chiropractic examination are from schools outside of Texas.

4. Optometry: Employment opportunity ratings and salary information are based on a report from one institution.

TEXAS PROFESSIONAL DEGREE PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
220101 LAW See Comment	Professional	BALANCED	1,891	1,819-2,764	ABOUT THE SAME	$27,000-$32,000	Law Clerks Lawyers Magistrates Paralegal Personnel Personnel/Labor Relations Specls. Tax Examiners/Collectors Tax Preparers Title Examiners & Abstractors

COMMENT - LAW

The composite statewide evaluation of BALANCED for short term employment opportunity is based on responses from six Texas law schools. Individual responses ranged from VERY GOOD to COMPETITIVE. Salaries and job availability vary according to geographic area, type of employment, and to a great extent the grades and class standing of the graduate.

In 1984 a total of 1,835 graduates of Texas law schools passed the Texas Bar examination; 462 candidates from out-of-state also passed.

TEXAS PROFESSIONAL DEGREE PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
182401 VETERINARY MEDICINE See Comment	Professional	BALANCED	98	89-135	ABOUT THE SAME	$19,000-$20,000	Agricultural Scientists Animal Caretakers Buyers, Wholesale, Retail Trade Veterinarians

COMMENT - VETERINARY MEDICINE

Employment opportunity ratings and salary information are based on a report from one institution. The rating of BALANCED for short-term employment opportunity is substantiated in a report, published in 1984, by the Southern Region Educational Board. This report also indicates that between 1982 and 1985 the number of graduates from Veterinary Medicine is expected to increase at a greater rate than the number of job openings.

OVERALL EMPLOYMENT OPPORTUNITIES FOR GRADUATES OF PROGRAMS IN

AGRICULTURE

During the period 1985-1986, employment opportunities for workers entering the job market with baccalaureate and graduate degrees in Agriculture should be BALANCED to VERY GOOD.

Employment conditions for the five-year period ending in 1990-1991 should either remain ABOUT THE SAME or show SOME IMPROVEMENT.

The tables that follow on pages 17 and 18 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following degree programs:

Agricultural Business and Management, General
Agricultural Business
Agronomy
Animal Sciences, General
Animal Sciences, Other (Wildlife and Fisheries)
Forestry and Related Sciences, General
Horticulture Science
Parks and Recreation, General
Range Management

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
010101 AGRICULTURAL BUSINESS AND MANAGEMENT, GENERAL See Comments #1, 2, 8	Baccalaureate	BALANCED	169	162-271	SOME IMPROVEMENT	$16,000-$17,000	Agricultural Scientists Biological & Agricultural Science Technicians Buyers, Wholesale, Retail Trade College Teachers (Graduate Level) Farmers & Farm Managers Farm Labor Supervisors Inspectors Real Estate Appraisers
	Graduate	BALANCED	87	80-136	SOME IMPROVEMENT	$19,000-$20,000	
010102 AGRICULTURAL BUSINESS See Comment #1	Baccalaureate	BALANCED	255	237-395	SOME IMPROVEMENT	$16,000-$18,000	Buyers, Wholesale, Retail Trade College Teachers (Graduate Level) Contract Administrators Credit Analysts/Authorizers Economists Farmers & Farm Managers Financial Analysts Inspectors Purchasing Agents & Buyers Real Estate Appraisers
	Graduate	BALANCED	44	45-71	ABOUT THE SAME	$19,000-$22,000	
020402 AGRONOMY See Comments #1, 3	Baccalaureate	BALANCED	62	59-98	SOME IMPROVEMENT	$17,000-$18,000	Agricultural Scientists Buyers, Wholesale, Retail Trade College Teachers (Graduate Level) Extension Service Specialists Farmers & Farm Managers Farm Labor Supervisors Inspectors
	Graduate	VERY GOOD	47	46-78	SOME IMPROVEMENT	$19,000-$20,000	
020201 ANIMAL SCIENCES, GENERAL See Comments #1, 4	Baccalaureate	BALANCED	255	237-395	ABOUT THE SAME	$14,000-$17,000	Animal Caretakers Buyers, Wholesale Retail Trade College Teachers (Graduate Level) Extension Service Specialists Farmers Farm Managers
	Graduate	BALANCED	19	16-26	ABOUT THE SAME	$18,000-$19,000	
020299 ANIMAL SCIENCES, OTHER (WILDLIFE & FISHERIES) See Comments #1, 5	Baccalaureate	COMPETITIVE	57	28-47	ABOUT THE SAME	$15,000-$18,000	Agricultural Scientists Animal Caretakers Biological & Agricultural Science Technicians Camp Directors Farm Managers Fish & Game Wardens Foresters & Conservation Scient Other Life & Physical Scientists
	Graduate	COMPETITIVE	24	15-26	ABOUT THE SAME	$16,000-$19,000	

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1985)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
030501 FORESTRY AND RELATED SCIENCES, GENERAL See Comment #6	Baccalaureate	BALANCED	39	30-50	SOME IMPROVEMENT	$17,000-$18,000	Agricultural Scientists Buyers, Wholesale, Retail Trade College Teachers (Graduate Level) Farmers Foresters & Conservation Scient Log & Lumber Inspectors, Graders Surveyors Timber Cruisers
	Graduate	VERY GOOD	See Comment #9		SOME IMPROVEMENT	$19,000-$20,000	
020403 HORTICULTURE SCIENCE See Comments #1, 7	Baccalaureate	VERY GOOD	76	68-114	SOME IMPROVEMENT	$14,000-$17,000	Agricultural Scientists Buyers, Wholesale, Retail Trade College Teachers (Graduate Level) Farmers
	Graduate	BALANCED	See Comment #9		SOME IMPROVEMENT	$17,000-$18,000	
310101 PARKS AND RECREATION, GENERAL	Baccalaureate	BALANCED	141	98-149	SOME IMPROVEMENT	$16,000-$17,000	Athletic Trainers/Instructors Camp Directors Gardeners & Groundskeepers Group Recreation Workers Guides, Sightseeing/Travel Reducing Instructors Recreation Facility Attendants
	Graduate	BALANCED	See Comment #9		SOME IMPROVEMENT	NOT AVAILABLE	
020409 RANGE MANAGEMENT	Baccalaureate	COMPETITIVE	47	26-44	ABOUT THE SAME	$16,000-$17,000	Animal Caretakers Biological Scientists Buyers, Wholesale, Retail Trade Farm Managers
	Graduate	BALANCED	See Comment #9		ABOUT THE SAME	$19,000-$20,000	

COMMENTS - AGRICULTURE

1. Employment opportunity ratings by institutions ranged from EXCELLENT or VERY GOOD to COMPETITIVE or KEENLY COMPETITIVE for Agricultural Business; Agricultural Business and Management, General; Agronomy; Animal Science; Horticulture Science; and Animal Science, Other. This indicates that employment opportunities for graduates of these programs vary widely throughout the state.
2. Agricultural Business and Management, General, includes programs in Food Sciences, General and Agricultural Mechanics, General.
3. Agronomy includes programs in Crop Production; Plant Sciences; Plant Breeding and Genetics; Plant Pathology/Physiology/Protection; and Soil Sciences.
4. Animal Sciences, General, includes programs in Animal Production; Dairy Science; Poultry Science; Meat Science; Animal Breeding and Genetics; Animal Nutrition; and baccalaureate level Veterinary Medicine.
5. Animal Sciences, Other, includes programs in Fisheries Science; Wildlife Science; and Wildlife Management.
6. Forestry and Related Sciences, General, includes Forestry Production and Processing.
7. Horticulture Science includes Floriculture.
8. Employment opportunities in public school teaching for Agriculture majors with teaching certification are covered in the Education section of these tables.
9. Market ready supply is expected to total less than 15; statistical supply-demand comparisons cannot be determined.

OVERALL EMPLOYMENT OPPORTUNITIES FOR GRADUATES OF PROGRAMS IN

BIOLOGICAL AND PHYSICAL SCIENCE

During the period 1985-1986, employment opportunities for workers entering the job market with baccalaureate and graduate degrees in Biological and Physical Science should be BALANCED to VERY GOOD except for Astronomy (COMPETITIVE) and Geology (COMPETITIVE at the baccalaureate level.)

Employment conditions for the five-year period ending in 1990-1991 should remain either ABOUT THE SAME or show SOME IMPROVEMENT.

The tables that follow on pages 21 and 22 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following degree programs:

Astronomy
Biochemistry/Biophysics
Biology
Chemistry
Geology
Physics
Zoology
Life Sciences, Other

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1986-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
400201 ASTRONOMY	Baccalaureate	COMPETITIVE	See Comment #7		SOME IMPROVEMENT	$14,000-$16,000	Atmospheric Scientists College Teachers (Graduate Level) Physicists Science Technicians
	Graduate	COMPETITIVE	See Comment #7		SOME IMPROVEMENT	$20,000-$22,000	
260201 BIOCHEMISTRY/BIOPHYSICS	Baccalaureate	VERY GOOD	38	39-59	ABOUT THE SAME	$14,000-$16,000	Biochemistry/Microbiology Techs Biological Scientists Chemists Medical Lab Assistants/Techs Medical Laboratory Technologists Physicists
	Graduate	BALANCED	19	21-32	ABOUT THE SAME	$20,000-$22,000	
260101 BIOLOGY See Comments #1, 2	Baccalaureate	BALANCED	535	449-683	SOME IMPROVEMENT	$14,000-$17,000	Agricultural Scientists Biochemistry/Microbiology Techs Biological Scientists College Teachers (Graduate Level) Health Technologists/Technicians Life & Physical Scientists Medical Lab Assistants/Techs
	Graduate	BALANCED	157	161-244	SOME IMPROVEMENT	$17,000-$19,000	
400501 CHEMISTRY See Comments #1, 3	Baccalaureate	VERY GOOD	230	282-428	SOME IMPROVEMENT	$19,000-$20,000	Agricultural Scientists Chemists College Teachers (Graduate Level) Health Technologists/Technicians Medical Lab Assistants/Techs
	Graduate	VERY GOOD	122	153-231	SOME IMPROVEMENT	$24,000-$27,000	
400601 GEOLOGY See Comments #1, 4	Baccalaureate	COMPETITIVE	495	776-1,179	SOME IMPROVEMENT	$20,000-$24,000	Civil Engineering Technicians College Teachers (Graduate Level) Computer Seismograph Technicians Core Analysts & Scouts Geologists Lease Buyers Observers, Electrical & Gravity Petroleum Engineers
	Graduate	BALANCED	126	365-555	SOME IMPROVEMENT	$27,000-$30,000	
400801 PHYSICS See Comment #1	Baccalaureate	VERY GOOD	54	89-135	SOME IMPROVEMENT	$22,000-$24,000	College Teachers (Graduate Level) Electrical & Electronic Techs Life & Physical Scientists Mechanical Engineering Techs Observers, Electrical & Gravity Other Engineering Technicians Other Engineers Physicists Science Technicians
	Graduate	VERY GOOD	60	164-250	SOME IMPROVEMENT	$24,000-$27,000	

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
260701 ZOOLOGY See Comment #1	Baccalaureate	BALANCED	29	20-30	ABOUT THE SAME	$16,000-$17,000	Agricultural Scientists Animal Caretakers Biological Scientists College Teachers (Graduate Level) Health Technologists/Technicians Medical Lab Assistants/Techs Medical Laboratory Technologists Science Technicians
	Graduate	BALANCED	16	9-17	ABOUT THE SAME	$18,000-$19,000	
269999 LIFE SCIENCES, OTHER See Comments #1, 5, 6	Baccalaureate	BALANCED	167	155-235	SOME IMPROVEMENT	$16,000-$17,000	Atmospheric Scientists College Teachers (Graduate Level) Electrical & Electronic Techs Inspectors Life & Physical Scientists Medical Scientists Other Technicians Pharmacy Assistants Science Technicians
	Graduate	BALANCED	72	52-80	SOME IMPROVEMENT	$19,000-$20,000	

COMMENTS - BIOLOGICAL AND PHYSICAL SCIENCE

1. Employment opportunity ratings by institutions ranged from EXCELLENT to COMPETITIVE or KEENLY COMPETITIVE for Biology; Chemistry; Geology; Physics; Zoology; and Life Sciences, Other. This indicates that employment opportunities for graduates of these programs vary widely throughout the state.
2. Biology includes programs in Microbiology; Radiobiology; Molecular Biology; and Genetics. Employment opportunities for Biology graduates are enhanced when Biology is combined with Education; Physics; Chemistry and/or Mathematics.
3. Chemists with a B.S. degree in Education should have EXCELLENT job opportunities due to a statewide shortage of high school Chemistry teachers.
4. Geology includes programs in Geophysics and Earth Science. Job opportunities for Geology graduates are greatest in the petroleum industry. Therefore, future industry variations will have a strong effect on demand. The number of related job openings shown in the table are probably overstated for the short-term because they are based on average annual openings over an eight year period of time. While job opportunities are expected to improve for geology majors during the next five years as energy industries experience a stronger economic recovery, the consensus of reports from 40 institutions overwhelmingly supports a COMPETITIVE job market for baccalaureate level graduates in the short-term.
5. Life Sciences, Other includes programs in Marine; Biological/Physical; Applied; Aerospace; and Environmental Sciences. Also, Atmospheric Science and Meteorology; Oceanography; Botany; Pre-Medicine; and Pre-Dentistry.
6. Employment opportunities in public school teaching for Science majors with teaching certification are covered in the Education section of these tables.
7. Market ready supply is expected to total less than 15; statistical supply-demand comparisons cannot be determined.

OVERALL EMPLOYMENT OPPORTUNITIES FOR GRADUATES OF PROGRAMS IN

BUSINESS ADMINISTRATION

During the period of 1985-1986, employment opportunities for workers entering the job market with baccalaureate and graduate degrees in Business Administration should be BALANCED to VERY GOOD for all programs except Petroleum Land Management, which is rated as COMPETITIVE.

Employment conditions for the five-year period ending in 1990-1991 should show SOME IMPROVEMENT for all programs.

The tables that follow on pages 25 to 28 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following degree programs:

Accounting
Advertising
Business Data Processing, General
Business Management
Business and Management, General
Finance
Hotel/Motel and Restaurant Management
Marketing
Petroleum Land Management
Secretarial and Related Programs, General

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1988)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1988-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
060201 ACCOUNTING	Baccalaureate	VERY GOOD	2,850	2,901-4,408	SOME IMPROVEMENT	$19,000-$20,000	Accountants & Auditors Actuaries Appraisers Claim Examiners/Adjusters College Teachers (Graduate Level) Credit Analysts/Authorizers Insurance Investigators Tax Examiners/Collectors Tax Preparers
	Graduate	VERY GOOD	199	275-332	SOME IMPROVEMENT	$22,000-$24,000	
090201 ADVERTISING See Comment #1	Baccalaureate	BALANCED	274	237-356	ABOUT THE SAME	$14,000-$16,000	Contribution Solicitors Media Analysts & Buyers Printing Service Estimators Public Relations Specialists Purchasing Agents & Buyers Sales Managers, Retail Trade
	Graduate	BALANCED	See Comment #6		SOME IMPROVEMENT	$17,000-$18,000	
061201 BUSINESS DATA PROCESSING, GENERAL See Comment #1	Baccalaureate	VERY GOOD	329	395-474	SOME IMPROVEMENT	$22,000-$24,000	Computer Equipment Operators Computer Programmers Computer Systems Analysts
	Graduate	VERY GOOD	19	28-33	SOME IMPROVEMENT	$27,000-$29,000	
060401 BUSINESS MANAGEMENT See Comment #4	Baccalaureate	BALANCED	2,602	2,658-4,067	SOME IMPROVEMENT	$18,000-$19,000	Air Crew Schedulers/Dispatchers Auto Service & Parts Managers College Teachers (Graduate Level) Commodities Brokers Contract Administrators Credit Analysts/Authorizers Employment Interviewers Financial Analysts Financial Service Sales Agents Personnel/Labor Relations Specls. Postmasters/Mail Superintendents Public Relations Specialists Purchasing Agents & Buyers Restaurant, Cafe, Bar Managers Securities Traders Sales Managers, Retail Trade Store Managers
	Graduate	BALANCED	489	467-715	SOME IMPROVEMENT	$22,000-$24,000	

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1988)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
060101 BUSINESS AND MANAGEMENT, GENERAL See Comment #1	Baccalaureate	BALANCED	2,426	2,310-3,536	SOME IMPROVEMENT	$18,000-$19,000	Appraisers Buyers, Wholesale, Retail Trade College Teachers (Graduate Level) Contract Administrators Cost Estimators Credit Analysts/Authorizers Economists Employment Interviewers Financial Analysts Loan Closers Market Research Analysts Personnel/Labor Relations Specls Purchasing Agents & Buyers Real Estate Appraisers Real Estate Brokers/Agents Sales Managers, Retail Trade Store Managers Transportation Agents Wholesalers
	Graduate	BALANCED	1,316	1,262-1,918	SOME IMPROVEMENT	$20,000-$22,000	
060301 FINANCE See Comments #1, 2	Baccalaureate	BALANCED	1,390	1,273-1,948	SOME IMPROVEMENT	$19,000-$20,000	Accountants & Auditors Actuaries Appraisers, Real Estate Assessors Bank Tellers Buyers, Wholesale, Retail Trade Claim Agents/Examiners/Adjusters College Teachers (Graduate Level) Commodities Brokers Contribution Solicitors Credit Analysts/Authorizers Economists Financial Analysts Financial Service Sales Agents Fire Insurance Inspectors Insurance Investigators Loan Closers Purchasing Agents & Buyers Sales Managers, Retail Trade Securities Traders Store Managers Tax Examiners/Collectors Tax Preparers
	Graduate	BALANCED	64	66-101	SOME IMPROVEMENT	$27,000-$30,000	

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
060701 HOTEL/MOTEL AND RESTAURANT MANAGEMENT See Comment #3	Baccalaureate	BALANCED	92	97-149	DEFINITE IMPROVEMENT	$16,000-$17,000	Contract Administrators Food Service Workers Restaurant, Cafe, Bar Managers
	No Degrees Awarded at the Graduate Level						
061401 MARKETING See Comments #1, 5	Baccalaureate	BALANCED	2,189	2,222-3,377	SOME IMPROVEMENT	$17,000-$18,000	Appraisers Auctioneers Auto Service & Parts Managers Buyers, Wholesale, Retail Trade College Teachers (Graduate Level) Commodities Brokers Customer Service Representatives Financial Analysts Financial Service Sales Agents Lease Buyers Market Research Analysts Media Analysts & Buyers Public Relations Specialists Purchasing Agents & Buyers Real Estate Brokers/Agents Sales Clerk Supervisors Sales Managers, Retail Trade Securities Traders Service Observers & Reps Store Managers Title Examiners & Abstractors Travel Agents Wholesalers
	Graduate	VERY GOOD	34	72-109	SOME IMPROVEMENT	$22,000-$25,000	
060499 PETROLEUM LAND MANAGEMENT	Baccalaureate	COMPETITIVE	154	110-169	SOME IMPROVEMENT	$24,000-$27,000	Lease Buyers Purchasing Agents & Buyers Real Estate Appraisers Real Estate Brokers/Agents
	No Degrees Awarded at the Graduate Level						

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
070601 SECRETARIAL AND RELATED PROGRAMS, GENERAL See Comment #1	Baccalaureate	VERY GOOD	175	195-297	SOME IMPROVEMENT	$16,000-$17,000	Clerical Supervisors Proofreaders Secretaries Stenographers
	Graduate	VERY GOOD	See Comment #6		SOME IMPROVEMENT	$20,000-$22,000	

COMMENTS - BUSINESS ADMINISTRATION

1. Employment opportunity ratings by institutions ranged from EXCELLENT or VERY GOOD to COMPETITIVE or KEENLY COMPETITIVE for Advertising; Business and Management, General; Business Data Processing, General; Finance; Management; Marketing; and Secretarial and Related Programs. This indicates that employment opportunities for graduates of these programs vary widely throughout the state.
2. Finance includes programs in Insurance and Risk Management; Actuarial Sciences; and Banking and Finance.
3. Hotel/Motel and Restaurant Management: Employment opportunity ratings are based on a report from two institutions.
4. Business Management includes Organizational Behavior; Labor/Industrial Relations; Personnel Management; Product/Systems and Operations Management; Aviation Management; Trade and Industrial Supervision; Quantitative Management Science; and Environment Management.
5. Marketing includes Real Estate and Retailing.
6. Market ready supply is expected to total less than 15; statistical supply-demand comparisons cannot be determined.

OVERALL EMPLOYMENT OPPORTUNITIES FOR GRADUATES OF PROGRAMS IN

COMPUTER SCIENCE AND MATHEMATICS

During the period 1985-1986, employment opportunities for workers entering the job market with baccalaureate and graduate degrees in Computer Science should be VERY GOOD.

Employment conditions for the five-year period ending in 1990-1991 should show SOME IMPROVEMENT for Computer Science and Mathematics.

The table that follows on page 31 provides more specific information on employment opportunities, beginning salaries, and related occupations for the following degree programs:

Computer Science
Mathematics

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1988)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1988-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
110101 COMPUTER SCIENCE AND INFORMATION SCIENCE, GENERAL	Baccalaureate	VERY GOOD	1,000	1,443-1,730	SOME IMPROVEMENT	$21,000-$24,000	College Teachers (Graduate Level) Computer Equipment Operators Computer Programmers Computer Seismograph Techs Computer Systems Analysts Electrical & Electronic Techs Other Engineers
	Graduate	VERY GOOD	260	425-510	SOME IMPROVEMENT	$24,000-$27,000	
270101 MATHEMATICS See Comment #1	Baccalaureate	VERY GOOD	252	317-482	SOME IMPROVEMENT	$19,000-$22,000	Actuarial Clerks Actuaries Air Traffic Controllers College Teachers (Graduate Level) Computer Programmers Computer Systems Analysts Financial Service Sales Agents Insurance Raters Mathematicians Mathematical Specialists Other Engineering Technicians Physical Science Technicians Science Technicians Statistical Clerks Statisticians Survey Workers
	Graduate	VERY GOOD	93	113-172	SOME IMPROVEMENT	$24,000-$27,000	

COMMENTS - COMPUTER SCIENCE AND MATHEMATICS

1. Mathematics includes programs in Mathematical Science and Statistics. Employment opportunities in public school teaching for Mathematics majors with teaching certification are covered in the Education section of these tables. Employment opportunity ratings by institutions ranged from EXCELLENT to KEENLY COMPETITIVE. This indicates that employment opportunities for graduates of Mathematics programs vary widely throughout the state.

OVERALL EMPLOYMENT OPPORTUNITIES FOR GRADUATES OF PROGRAMS IN

TEACHER EDUCATION AND LIBRARY SCIENCE

During the period 1985-1986, employment opportunities for workers entering the job market with baccalaureate and graduate degrees in Teacher Education should be VERY GOOD for all broad teaching areas except Health and Physical Education, which is BALANCED. Employment opportunities for graduate level Educational Administration and Supervision are BALANCED. The job market for Student Counseling and Personnel Services is expected to be COMPETITIVE at the baccalaureate level and BALANCED at the graduate level.

Employment conditions for the five-year period ending in 1990-1991 should show SOME IMPROVEMENT in the teaching areas and remain ABOUT THE SAME in the Administrative areas.

A "Study of the Availability of Teachers for Texas Public Schools" completed in February 1984 by the Texas Education Agency projects that over the remainder of the decade, student enrollment in pre-kindergarten and kindergarten will increase at an average annual rate of almost 4 percent and elementary school enrollment will increase at an average annual rate of approximately 3.3 percent. Secondary school enrollment is expected to increase until 1988 at a much lesser rate than elementary school enrollment, then decline for the remaining two years of the decade. The report concludes that:

- For the remainder of this decade there will be a steadily increasing gap between demand for fully-qualified teachers and the available supply of such teachers. Demand for teachers will be created by dramatic increases in student enrollment along with a steady attrition of experienced teachers.

- Attrition, not enrollment growth, will be the single greatest cause of teacher shortages. This will be especially true at the secondary level, where attrition is expected to create nine times as many openings for teachers as enrollment growth.

There has been a steady decline in the number of Teacher Education graduates from Texas schools during recent years. This trend is reflected in the number of initial teaching certificates issued each year. For example, in 1978-1979 a total of 4,660 secondary teaching certificates were obtained by graduates of Texas institutions; this number decreased to 3,151 in 1982-1983. In the last two years there has also been a decline in the number of certificates issued to out-of-state teachers.

The tables that follow on pages 33 to 35 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following degree programs:

Bilingual/Bicultural Education
Education Administration and Supervision
Elementary Education
Health and Physical Education
Secondary Education
Special Education
Student Counseling and Personnel Services
Vocational Education
Education, Other
Library Science

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1988)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1988-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
130201 BILINGUAL/BICULTURAL EDUCATION See Comments #2, 12	Baccalaureate	VERY GOOD	160	383-481	SOME IMPROVEMENT	$16,000-$17,000	Caseworkers Child Care Attendants/Workers Community Organization Workers Elementary Teachers Other Teachers Preschool/Kindergarten Teachers Secondary Teachers
	Graduate	VERY GOOD	20	49-61	SOME IMPROVEMENT	$17,000-$18,000	
130401 EDUCATION ADMINISTRATION AND SUPERVISION See Comments #1, 3	No Degrees Awarded at the Baccalaureate Level						Admission Evaluators Adult Education Teachers Chief Executives/Administrators College Teachers Curriculum Specialists Employment Interviewers Other Managers Other Teachers Personnel/Labor Relations Specls Principals & Superintendents
	Graduate	BALANCED	359	567-861	ABOUT THE SAME	$22,000-$24,000	
131202 ELEMENTARY EDUCATION See Comments #1, 4, 12	Baccalaureate	VERY GOOD	3,181	4,113-6,325	SOME IMPROVEMENT	$15,000-$17,000	Child Care Attendants/Workers Elementary Teachers Librarians (Graduate Level) Library Assistants Library Technical Assistants Other Teachers Preschool/Kindergarten Teachers
	Graduate	VERY GOOD	571	738-1,136	SOME IMPROVEMENT	$17,000-$19,000	
131307 HEALTH AND PHYSICAL EDUCATION See Comments #1, 5, 12	Baccalaureate	BALANCED	1,019	576-630	SOME IMPROVEMENT	$16,000-$17,000	Athletes Athletic Trainers/Instructors Camp Directors Dance Instructors Elementary Teachers Group Recreation Workers Other Teachers Physical Therapy Technicians Reducing Instructors Secondary Teachers
	Graduate	BALANCED	120	68-74	ABOUT THE SAME	$19,000-$20,000	

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
131205 SECONDARY EDUCATION See Comments #1, 6, 12	Baccalaureate	VERY GOOD	1,251	2,286-4,400	SOME IMPROVEMENT	$15,000-$17,000	Adult Education Teachers Librarians (Graduate Level) Library Assistants Library Technical Assistants Other Teachers Secondary Teachers
	Graduate	VERY GOOD	209	382-735	SOME IMPROVEMENT	$17,000-$19,000	
131001 SPECIAL EDUCATION See Comments #7, 12	Baccalaureate	VERY GOOD	325	693-1,035	SOME IMPROVEMENT	$16,000-$17,000	Elementary Teachers Preschool & Kindergarten Teachers Psychiatric Aides Secondary Teachers Speech & Hearing Therapists Vocational Education Counselors
	Graduate	VERY GOOD	187	400-598	SOME IMPROVEMENT	$16,000-$18,000	
131101 STUDENT COUNSELING AND PERSONNEL SERVICES	Baccalaureate	COMPETITIVE	31	24-36	ABOUT THE SAME	$15,000-$18,000	Camp Directors Caseworkers Employment Interviewers Group Recreation Workers Personnel/Labor Relations Specls Vocational Education Counselors
	Graduate	BALANCED	338	261-396	ABOUT THE SAME	$19,000-$21,000	
131320 VOCATIONAL EDUCATION See Comments #1, 8, 12	Baccalaureate	VERY GOOD	450	692-765	SOME IMPROVEMENT	$16,000-$18,000	Adult Education Teachers Auto Driving Instructors Industrial Engineering Techs Inspectors Production Coordinators Secondary Teachers Vocational & Training Teachers
	Graduate	VERY GOOD	142	219,242	SOME IMPROVEMENT	$18,000-$22,000	
139999 EDUCATION, OTHER See Comments #1, 9	Baccalaureate	VERY GOOD	293	414-629	SOME IMPROVEMENT	$15,000-$17,000	Admission Evaluators Adult Education Teachers College Teachers (Graduate Level) Curriculum Specialists Directors Religious Activity Elementary Teachers Employment Interviewers Group Recreation Workers Librarians (Graduate Level) Other Teachers Personnel/Labor Relations Specls Principals & Superintendents, (Graduate Level) Secondary Teachers Vocational Education Couselors
	Graduate	VERY GOOD	338	550-835	SOME IMPROVEMENT	$21,000-$24,000	

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1988)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1988-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
250401 LIBRARY SCIENCE See Comment #10	Baccalaureate	VERY GOOD	See Comment #11		SOME IMPROVEMENT	$14,000-$16,000	Archivists & Curators College Teachers (Graduate Level) Librarians (Graduate Level) Library Assistants Library Technical Assistants Proofreaders
	Graduate	VERY GOOD	175	248-377	DEFINITE IMPROVEMENT	$16,000-$18,000	

COMMENTS - TEACHER EDUCATION

1. Employment opportunity ratings by institutions ranged from EXCELLENT to COMPETITIVE or KEENLY COMPETITIVE for Elementary Education; Secondary Education; Health and Physical Education; and Education Administration and Supervision.
2. Bilingual/Bicultural Education is expected to have an annual shortfall of approximately 100 teachers.
3. Education Administration and Supervision includes programs in Educational Diagnostician; Education Administration, General; Educational Media; and History and Philosophy of Education.
4. Elementary Education includes programs in Early Childhood, Reading, and Kindergarten Education. Based on present teacher/pupil ratios and curriculum requirements, the Texas Education Agency expects a surplus of pre-kindergarten-kindergarten teachers, but a shortage of elementary teachers during the rest of the 1980's. However, if full-day kindergarten classes are adopted and a lower number of students are required in kindergarten through the second grade, teacher requirements would substantially increase.
5. Health and Physical Education is expected to have a major surplus of public school teachers (approximately 600 more than is needed each year). However, many graduates obtain employment outside of the public school system; therefore, the overall employment opportunities are expected to be BALANCED. Recreation Education is included with this program.
6. The Texas Education Agency expects an overall shortfall of approximately 24 to 28 percent for secondary teachers; this equates to a shortage of approximately 1,500 teachers each year. The greatest annual shortage will occur in mathematics (approximately 300). Science and fine arts will experience smaller shortages while English will be roughly BALANCED. Modest surpluses are expected for teachers in social studies, foreign languages, and business education.
7. Special Education is expected to have an annual shortfall of approximately 550 teachers. Education of Deaf and Hearing Impaired; and Speech Language Pathology/Audiology are included with this program.
8. Vocational Education is expected to have a major shortage of teachers (approximately 300 less than is required in the public school system each year). Includes programs in Occupational, Technical, Industrial Arts, Extension, Trade and Industrial, Adult and Continuing Education; as well as Industrial Technology.
9. Education, Other includes programs in Education, General; Higher Education Teaching; Curriculum and Instruction; and Religious Education.
10. Library Science includes Museology.
11. Market ready supply is expected to total less than 15; statistical supply-demand comparisons cannot be determined.
12. The current (1985) state supported annual salary for entry level teachers in secondary and elementary schools in $15,200. Most school districts provide a supplement to this base salary.

OVERALL EMPLOYMENT OPPORTUNITIES FOR GRADUATES OF PROGRAMS IN

ENGINEERING AND TECHNOLOGY

During the period 1985-1986, employment opportunities for workers entering the job market with baccalaureate and graduate degrees in Engineering and Technology should be BALANCED to VERY GOOD. An exception is Computer Science Engineering, which is rated as EXCELLENT.

Employment conditions for the five-year period ending in 1990-1991 should show SOME IMPROVEMENT for most Engineering fields.

While employment opportunities for graduates of programs in Engineering are favorable at both the national and state level, there has been a decided decline in the job opportunity ratings for many Engineering fields. For example, Chemical Engineering is currently rated COMPETITIVE at the baccalaureate level; this is the first time an Engineering program has received an overall COMPETITIVE rating. Several other programs have a lower rating than they did in the previous report, and no Engineering programs have a higher rating than previously. At the national level, Engineering still maintains its lead as the curricular area with the greatest number of job offers and highest salaries. A comparison of survey responses from 1984 Engineering graduates with 1982 graduates indicates no change in the percentage of those who were employed prior to or immediately after graduation in directly related occupations.

These findings should not detract from the overall favorable employment opportunities available to Engineering graduates, and they have not affected the higher salaries which Engineering graduates receive in comparison with most other disciplines. However, they confirm a previous observation which indicates that the extremely high demand for Engineering graduates has peaked.

The tables that follow on pages 37 to 39 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following degree programs:

Aerospace, Aeronautical, and Astronautical Engineering
Architecture
Chemical Engineering
Civil Engineering
Computer Engineering
Electrical, Electronics, and Communications Engineering
Industrial Engineering
Mechanical Engineering
Petroleum Engineering
Engineering, Other
Technology

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1986-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
140201 AEROSPACE, AERONAUTICAL, AND ASTRONAUTICAL ENGINEERING	Baccalaureate	BALANCED	134	213-323	SOME IMPROVEMENT	$24,000-$27,000	Aero-Astronautic Engineers Airplane Pilots Flight Engineers
	Graduate	BALANCED	19	22-33	SOME IMPROVEMENT	$30,000 +	
040201 ARCHITECTURE See Comment #2	Baccalaureate	BALANCED	548	601-915	SOME IMPROVEMENT	$16,000-$17,000	Architects Civil Engineering Technicians College Teachers (Graduate Level) Construction Inspectors Cost Estimators Designers Drafters Real Estate Appraisers Right-of-Way Agents Urban & Regional Planners
	Graduate	BALANCED	137	123-206	ABOUT THE SAME	$17,000-$18,000	
140701 CHEMICAL ENGINEERING See Comment #3	Baccalaureate	COMPETITIVE	333	407-618	SOME IMPROVEMENT	$27,000-$30,000	Chemical Engineers College Teachers (Graduate Level) Other Technicians Petroleum Engineers
	Graduate	BALANCED	62	97-147	SOME IMPROVEMENT	$30,000 +	
140801 CIVIL ENGINEERING See Comment #1	Baccalaureate	BALANCED	584	764-1,161	SOME IMPROVEMENT	$22,000-$24,000	Civil Engineering Technicians Civil Engineers College Teachers (Graduate Level) Construction Inspectors Mechanical Engineers Mining Engineers Other Engineers Right-of-Way Agents Safety Inspectors Surveyors Traffic Technicians
	Graduate	VERY GOOD	122	243-369	SOME IMPROVEMENT	$25,000-$30,000	
140901 COMPUTER ENGINEERING	Baccalaureate	VERY GOOD	46	79-92	DEFINITE IMPROVEMENT	$24,000-$27,000	Computer Equipment Operators Computer Programmers Computer Systems Analysts Electrical & Electronic Techs Electrical Engineers Other Engineers
	Graduate	EXCELLENT	See Comment #8		SOME IMPROVEMENT	$30,000 +	

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
141001 ELECTRICAL, ELECTRONICS, AND COMMUNICATIONS ENGINEERING	Baccalaureate	VERY GOOD	941	1,000-1,519	DEFINITE IMPROVEMENT	$24,000-$27,000	College Teachers (Graduate Level) Computer Programmers Computer Systems Analysts Electrical & Electronic Techs Electrical Engineers Electrical Instrument Repairers
	Graduate	VERY GOOD	157	200-304	DEFINITE IMPROVEMENT	$30,000 +	
141701 INDUSTRIAL ENGINEERING See Comments #1, 4	Baccalaureate	VERY GOOD	189	210-319	SOME IMPROVEMENT	$24,000-$27,000	College Teachers (Graduate Level) Designers Industrial Engineers Other Engineers Production Coordinators
	Graduate	BALANCED	95	123-187	SOME IMPROVEMENT	$27,000-$30,000	
141901 MECHANICAL ENGINEERING See Comment #1	Baccalaureate	VERY GOOD	704	834-1,267	SOME IMPROVEMENT	$24,000-$27,000	College Teachers (Graduate Level) Industrial Engineers Mechanical Engineering Techs Mechanical Engineers Ship Engineers
	Graduate	VERY GOOD	43	59-90	SOME IMPROVEMENT	$30,000 +	
142501 PETROLEUM ENGINEERING See Comment #5	Baccalaureate	BALANCED	340	372-566	DEFINITE IMPROVEMENT	$27,000-$30,000	College Teachers (Graduate Level) Core Analysts & Scouts Geologists Mining Engineers Oil & Gas Technical Operators Petroleum Engineers Refinery Dispatchers
	Graduate	BALANCED	See Comment #8		SOME IMPROVEMENT	$30,000 +	
149999 ENGINEERING, OTHER See Comments #1, 6	Baccalaureate	BALANCED	190	216-329	SOME IMPROVEMENT	$24,000-$27,000	Airplane Pilots Designers Flight Engineers Metallurgical Engineers Other Engineers Ship Captains & Pilots Ship Engineers Traffic Technicians
	Graduate	VERY GOOD	107	210-319	SOME IMPROVEMENT	$30,000 +	

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1988)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
150000 TECHNOLOGY See Comment #7	Baccalaureate	BALANCED	935	734-1,206	SOME IMPROVEMENT	$20,000-$22,000	Airplane Pilots Auto Driving Instructors Blue Collar Working Supervisors Drafters Electrical & Electronic Techs Fire Officers/Fighters Inspectors Other Engineering Technicians Production Coordinators Radio Operators Science Technicians Ship Captains & Pilots
	Graduate	BALANCED	38	32-48	ABOUT THE SAME	$22,000-$24,000	

COMMENTS - ENGINEERING

1. Employment opportunity ratings ranged from EXCELLENT or VERY GOOD to COMPETITIVE or KEENLY COMPETITIVE for Civil, Industrial, Mechanical Engineering, and Engineering, Other. These ratings confirm a trend, noted in the 1983 Supply-Demand Report, which indicates that the job opportunities for graduates of these programs are not consistently strong throughout the state.

2. Architecture includes programs in Landscape Architecture; City, Community, and Regional Planning; Architectural Engineering; Urban Design; Environmental Design; Trade and Industrial Supervision and Management; and Engineering, General.

3. Chemical Engineering was rated by ten institutions; receiving four BALANCED, five COMPETITIVE, and one KEENLY COMPETITIVE ratings. A consensus rating of COMPETITIVE for Chemical Engineering represents a sharp decline in the job opportunity rating from two years ago when the overall rating was VERY GOOD. The number of related job openings shown in the table are overstated for the short-term because they are based on average annual openings over an eight year period of time. While job opportunities are expected to improve for Chemical Engineering majors during the next five years as energy industries experience a stronger economic recovery, job opportunities during the short-term are not expected to be plentiful.

4. Industrial Engineering includes programs in Industrial Safety/Hygiene Engineering and Industrial Sales.

5. The rating of BALANCED for Petroleum Engineering at the baccalaureate level is borderline. Petroleum Engineering was rated by four institutions; two were COMPETITIVE and two were BALANCED. The number of related job openings shown in the table are overstated for the short-term because they are based on average annual openings over an eight year period of time. While job opportunities are expected to improve for Petroleum Engineering majors during the next five years as energy industries experience a stronger economic recovery, job opportunities during the short-term may be COMPETITIVE in some areas.

6. Engineering, Other includes programs in Ocean Engineering; Engineering, General; Engineering Mechanics; Metallurgical Engineering; Environmental Health Engineering; Maritime Systems Engineering; Nuclear Engineering; Control Engineering; Engineering Science; Bio/Biomedical Engineering; Marine Engineering; Radiation Protection Engineering; Engineering Physics; and Materials Engineering.

7. Technology includes programs in Industrial, Textile, Engineering, Civil, Electrical-Electronic, Mechanical, Drafting, Manufacturing, Construction, and Occupational Technology.

8. Market Ready supply is expected to total less than 15; statistical supply-demand comparisons cannot be determined.

OVERALL EMPLOYMENT OPPORTUNITIES FOR GRADUATES OF PROGRAMS IN

FINE AND APPLIED ARTS

During the period 1985-1986, employment opportunities for workers entering the job market with baccalaureate and graduate degrees in Fine and Applied Arts should be COMPETITIVE to BALANCED.

Employment conditions for the five-year period ending in 1990-1991 should remain ABOUT THE SAME except for Radio/Television, General which is expected to show SOME IMPROVEMENT.

Teaching opportunites in the public schools should be about BALANCED for Fine Arts education majors. The Texas Education Agency projects a small shortage of Fine Arts teachers for the 1980's.

The tables that follow on pages 41 and 42 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following degree programs:

Dramatic Arts
Music, General
Visual Arts, General
Radio/Television, General

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1988)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1988-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
500501 DRAMATIC ARTS See Comments #1, 2	Baccalaureate	COMPETITIVE	289	187-285	ABOUT THE SAME	$14,000-$16,000	Actors & Actresses Adult Education Teachers Broadcast & Light Technicians College Teachers (Graduate Level) Dance Instructors Dancers Designers Group Recreation Workers Public Relations Specialists Technical Directors, Radio/TV
	Graduate	COMPETITIVE	52	50-76	ABOUT THE SAME	$16,000-$17,000	
5000901 MUSIC, GENERAL See Comments #1, 3	Baccalaureate	BALANCED	541	412-626	ABOUT THE SAME	$16,000-$17,000	Adult Education Teachers College Teachers (Graduate Level) Group Recreation Workers Music Directors Musicians, Instrumental Recreation Therapists Singers
	Graduate	BALANCED	212	204-313	ABOUT THE SAME	$17,000-$18,000	
500701 VISUAL ARTS, GENERAL See Comments #1, 4	Baccalaureate	COMPETITIVE	767	478-727	ABOUT THE SAME	$14,000-$17,000	Adult Education Teachers Archivists & Curators College Teachers (Graduate Level) Commercial & Artistic Painters Designers Engravers/Photoengravers Fashion Coordinators Merchandise Displayers Patternmakers Photographers Platemakers Store Managers
	Graduate	BALANCED	57	60-91	ABOUT THE SAME	$16,000-$19,000	

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
090701 RADIO/TELEVISION, GENERAL See Comment #1	Baccalaureate	BALANCED	482	346-526	SOME IMPROVEMENT	$14,000-$17,000	Audio Visual Specialists Broadcast & Light Technicians Broadcast News Analysts Correspondents & Reporters Film Bookers Film Editors Media Analysts/Buyers Photographers Public Relations Specialists Radio & Television Announcers Recording & Reproduction Techs Television Camera Operators
	Graduate	BALANCED	29	34-52	SOME IMPROVEMENT	$16,000-$18,000	

COMMENTS - FINE AND APPLIED ARTS

1. Employment opportunity ratings by institutions ranged from EXCELLENT or VERY GOOD to KEENLY COMPETITIVE for Visual Arts; Dramatic Arts; Music; and Radio/Television. This indicates that employment opportunities for graduates of these programs vary widely throughout the state.
2. Dramatic Arts includes programs in Production; Technical Theatre; Drama Education; and Dance.
3. Music includes programs in Theory and Composition; Music Therapy; Performance; Music Education; Music History; Music Literature; Musicology; and Religious Music.
4. Visual Arts, General includes programs in Art History and Appreciation; Studio Art; Commercial Art; Art Education; Advertising Art; Printmaking; and Design. Success in an art career is dependent upon what specific part of the art field the student has trained for and upon the competency of the student. Commercial Art offers much better employment and salary opportunities than Fine Art and Studio Art.

OVERALL EMPLOYMENT OPPORTUNITIES FOR GRADUATES OF PROGRAMS IN

HEALTH PROFESSIONS

During the period 1985-1986, employment opportunities for workers entering the job market with baccalaureate and graduate degrees in Health Professions should be BALANCED to VERY GOOD.

Employment conditions for the five-year period ending in 1990-1991 should show SOME IMPROVEMENT for most programs.

Compared with supply-demand conditions two years ago, most programs in the Health Professions currently have a lower employment opportunity rating. Exceptions are Medical Technology at the baccalaureate level (which did not change), Physical Therapy at the graduate level (which improved) and Pharmacy (which improved at both levels). Otherwise, all programs that were rated EXCELLENT are currently VERY GOOD, and those that were previously rated VERY GOOD or better are now BALANCED.

The tables that follow on pages 45 to 47 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following degree programs:

Helath Care Administration
Medical Records Administration
Medical Technology
Nursing, General
Occupational Therapy
Physical Therapy
Pharmacy
Health Sciences, Other

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
180701 HEALTH CARE ADMINISTRATION	Baccalaureate	BALANCED	67	54-82	SOME IMPROVEMENT	$17,000-$18,000	Contract Administrators College Teachers (Graduate Level) Health Technologists/Technicians Medical Records Technologists Purchasing Agents & Buyers See Comment #2
	Graduate	BALANCED	56	43-65	ABOUT THE SAME	$22,000-$24,000	
180703 MEDICAL RECORDS ADMINISTRATION See Comment #3	Baccalaureate	VERY GOOD	See Comment #7		DEFINITE IMPROVEMENT	$18,000-$19,000	Chief Executives/Administrators Contract Administrators Health Record Technologists Health Technologists/Technicians Purchasing Agents & Buyers
	Graduate	EXCELLENT			ABOUT THE SAME	$18,000-$19,000	
170310 MEDICAL TECHNOLOGY See Comment #1	Baccalaureate	VERY GOOD	207	219-333	SOME IMPROVEMENT	$17,000-$18,000	Biochemistry & Microbiology Techs Blood Bank Technologists Cytotechnologists Dental Lab Technicians Dietetic Technicians EKG/EEG Technicians Health Technologists/Technicians Histologic Technicians Medical Lab Assistants/Techs Medical Scientists Pharmacy Assistants Physical Therapy Technicians Radiologic/Nuclear Medical Techs Surgical Technicians X-Ray Technicians
	Graduate	BALANCED	See Comment #7		ABOUT THE SAME	$18,000-$19,000	
181101 NURSING, GENERAL See Comments #1, 4	Baccalaureate	VERY GOOD	1,431	2,066-3,140	ABOUT THE SAME	$17,000-$18,000	Blood Bank Technologists College Teachers (Graduate Level) Medical Assistants Medical Lab Assistants/Techs Other Therapists Physicians Assistants Professional Nurses Surgical Technicians
	Graduate	VERY GOOD	92	313-476	SOME IMPROVEMENT	$22,000-$24,000	

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
170807 OCCUPATIONAL THERAPY	Baccalaureate	VERY GOOD	114	117-179	SOME IMPROVEMENT	$18,000-$19,000	College Teachers (Graduate Level) Corrective & Physical Therapists Health Technologists/Technicians Medical Assistants Occupational Therapists Recreation Therapists
	Graduate	VERY GOOD	38	53-80	SOME IMPROVEMENT	$19,000-$20,000	
170813 PHYSICAL THERAPY See Comment #1	Baccalaureate	VERY GOOD	139	188-286	SOME IMPROVEMENT	$19,000-$20,000	Athletic Trainers/Instructors Corrective & Physical Therapists Health Technologists/Technicians Inhalation Therapists Physical Therapy Technicians Recreation Therapists
	Graduate	EXCELLENT	See Comment #7		SOME IMPROVEMENT	$19,000-$22,000	
181401 PHARMACY See Comment #5	Baccalaureate	VERY GOOD	242	356-451	ABOUT THE SAME	$27,000-$30,000	Pharmacists
	Graduate	VERY GOOD	33	116-177	ABOUT THE SAME	$27,000-$30,000	
189999 HEALTH SCIENCES, OTHER See Comments #1, 6	Baccalaureate	BALANCED	187	155-246	SOME IMPROVEMENT	$15,000-$16,000	Dental Assistants Dental Hygienists Dental Lab Technicians Emergency Medical Technicians Health Technologists/Technicians Medical Lab Assistants/Techs Other Therapists Pharmacy Assistants Physicians Assistants Radiologic/Nuclear Medical Techs Speech & Hearing Therapists X-Ray Technicians
	Graduate	BALANCED	156	175-266	SOME IMPROVEMENT	$16,000-$21,000	

COMMENTS - HEALTH PROFESSIONS

1. Employment opportunity ratings by institutions ranged from EXCELLENT or VERY GOOD to COMPETITIVE for Physical Therapy; Nursing, General; Medical Technology; and Health Sciences, Other. This indicates that employment opportunities for graduates of these programs vary widely throughout the state.

2. Health Care Administration: Several types of mid-and-upper-level management occupations are also applicable to this program. These include duties involving medical records administration and the management of health and medical facilities.

3. Medical Records Administration: Graduate-level employment ratings are based on a report from one institution.

COMMENTS - HEALTH PROFESSIONS

4. Nursing, General: In a report to the Coordinating Board in July 1983, the Nursing Education Advisory Committee stated that the acute nurse shortage previously documented in 1981 by the Texas Hospital Association and other sources had been reduced. The Committee warned; however, that this reduction of the gap between supply and demand for nurses may not continue.

   In 1984, a total of 4,181 nurses were newly registered by the Board of Nurse Examiners for the State of Texas. This number includes diploma, associate degree, and baccalaureate degree nurses. Another 4,169 were newly endorsed from out-of-state. Historically, about 45 percent of the nurses licensed in Texas come from out-of-state.

   The Advisory Committee report projects an annual supply of approximately 5,000 new licensed registered nurses. This projection is based on a continuation of the strong pattern of in-migration of nurses and an increase in the output of Texas nursing schools. Considering attrition and nursing requirements for an adequate number of registered nurses, by 1987 Texas would have a shortage of approximately 4,000 registered nurses.

   The situation for licensed practical nurses (LVN's) is somewhat different, with the expected supply exceeding the requirement by at least 3,500 in 1987.

5. Pharmacy: A large number of pharmacists in-migrate to Texas and this number has increased slightly each year. Applicants for the Texas State Board of Pharmacy Licensure Examination from out-of-state also have increased.

6. Health Sciences, Other includes programs in Allied Health; Dental Hygiene; Rehabilitation Science; Public Health Laboratory Science; Physician Assisting; Dietetics/Human Nutritional Services; Radiologic Technology; and Gerontology.

7. Market ready supply is expected to total less than 15; statistical supply-demand comparisons cannot be determined.

OVERALL EMPLOYMENT OPPORTUNITIES FOR GRADUATES OF PROGRAMS IN

HOME ECONOMICS

During the period 1985-1986, employment opportunities for workers entering the job market with baccalaureate and graduate degrees in Home Economics should be BALANCED except in Food Sciences and Human Nutrition, where they are expected to be VERY GOOD.

Employment conditions for the five-year period ending 1990-1991 should show SOME IMPROVEMENT for most programs.

The tables that follow on pages 49 and 50 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following degree programs:

Family Relations
Food Sciences and Human Nutrition, General
Home Economics, General
Home Decorating
Textiles and Clothing, General

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
190701 FAMILY RELATIONS See Comments #1, 2	Baccalaureate	BALANCED	108	108-129	SOME IMPROVEMENT	$13,000-$16,000	Caseworkers Child Care Attendants/Workers College Teachers (Graduate Level) Community Organization Workers Customer Service Representatives Demonstrators Extension Service Specialists Fashion Coordinators Group Recreation Workers Other Teachers Sales Managers, Retail Trade Welfare Service Aides
	Graduate	BALANCED	15	14-16	SOME IMPROVEMENT	$22,000-$24,000	
190501 FOOD SCIENCES AND HUMAN NUTRITION, GENERAL See Comments #1, 5	Baccalaureate	VERY GOOD	95	150-228	SOME IMPROVEMENT	$16,000-$18,000	College Teachers (Graduate Level) Dietetic Technicians Dietitians Food Service Workers Inspectors Reducing Instructors Restaurant, Cafe, Bar Managers
	Graduate	VERY GOOD	25	37-56	SOME IMPROVEMENT	$20,000-$22,000	
190101 HOME ECONOMICS, GENERAL See Comments #1, 3	Baccalaureate	BALANCED	528	448-537	ABOUT THE SAME	$16,000-$17,000	Caseworkers College Teachers (Graduate Level) Customer Service Representatives Demonstrators Designers Extension Service Specialists Group Recreation Workers Restaurant, Cafe, Bar Managers Sales Managers, Retail Trade Service Observers and Reps Store Managers Travel Counselors
	Graduate	BALANCED	23	27-32	SOME IMPROVEMENT	$16,000-$18,000	
200505 HOME DECORATING	Baccalaureate	BALANCED	61	49-74	SOME IMPROVEMENT	$16,000-$17,000	Designers Merchandise Displayers Real Estate Agents/Reps Sales Managers, Retail Trade Store Managers
	No Degrees Awared at the Graduate Level						

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
190901 TEXTILES AND CLOTHING, GENERAL See Comment #1	Baccalaureate	BALANCED	170	184-279	SOME IMPROVEMENT	$14,000-$16,000	Buyers, Wholesale, Retail Trade College Teachers (Graduate Level) Designers Fashion Coordinators Garment Sample Makers Merchandise Displayers Milliners Purchasing Agents & Buyers Sales Clerk Supervisors Sales Managers, Retail Trade Store Managers
	Graduate	VERY GOOD	See Comment #4		SOME IMPROVEMENT	$19,000-$20,000	

COMMENTS - HOME ECONOMICS

1. Employment opportunity ratings by institutions ranged from EXCELLENT to COMPETITIVE for Textiles and Clothing; Family Relations; Home Economics, General; and Food Sciences and Human Nutrition.
2. Family Relations includes Child Development. Employment opportunities for majors in Child Development and Family Relations with elementary teaching certificates are covered in the Education section of these tables.
3. Home Economics, General includes programs in Fashion Merchandising; Institutional/Home Management; and Comprehensive Consumer and Homemaking Education. Employment opportunities for Home Economics majors with teaching certificates are covered in the Education section of these tables.
4. Market ready supply is expected to total less than 15; statistical supply-demand comparisons cannot be determined.
5. Food Sciences and Human Nutrition, General includes Dietetics/Human Nutritional Services.

OVERALL EMPLOYMENT OPPORTUNITIES FOR GRADUATES OF PROGRAMS IN

LIBERAL ARTS, LANGUAGES, AND JOURNALISM

During the period 1985-1986, employment opportunities for workers entering the job market with baccalaureate and graduate degrees in Liberal Arts, Languages, and Journalism should be COMPETITIVE to BALANCED.

Employment conditions for the five-year period ending in 1990-1991 should remain ABOUT THE SAME for half of the programs and show SOME IMPROVEMENT for others.

Many Liberal Arts programs do not have direct relation with an occupational field other than teaching. However, there is strong evidence that employers are more aware of the valuable general reasoning capability and communications skills that these programs provide. Most students in Liberal Arts programs enter teaching or, at the baccalaureate level, use their Liberal Arts work as preparation for a more advanced degree. However, an increasing number of students combine Liberal Arts with a more marketable program such as Business, Computer Science, or another technical field in order to take advantage of better employment opportunities.

The tables that follow on pages 53 and 54 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following degree programs:

English
Foreign Languages, Multi-Emphasis
Journalism (Mass Communications)
Liberal/General Studies
Philosophy
Religion
Spanish
Speech, Debate, and Forensics

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1988)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
230101 ENGLISH See Comments #1, 2	Baccalaureate	BALANCED	380	352-422	SOME IMPROVEMENT	$14,000-$16,000	Adult Education Teachers College Teachers (Graduate Level) Correspondents & Reporters Editors & Writers Library Assistants Media Analysts Other Teachers Proofreaders Public Relations Specialists
	Graduate	COMPETITIVE	117	65-98	SOME IMPROVEMENT	$17,000-$18,000	
160101 FOREIGN LANGUAGES, MULTI-EMPHASIS See Comment #3	Baccalaureate	BALANCED	112	105-156	SOME IMPROVEMENT	$14,000-$16,000	College Teachers (Graduate Level) Employment Interviewers Other Teachers Public Relations Specialists Travel Agents
	Graduate	BALANCED	18	20-30	SOME IMPROVEMENT	$17,000-$18,000	
090401 JOURNALISM (MASS COMMUNICATIONS) See Comment #1	Baccalaureate	BALANCED	1,143	1,213-1,455	SOME IMPROVEMENT	$14,000-$16,000	Announcers, Radio/TV Audio Visual Specialists Bindery Workers Broadcast News Analysts Camera Operators, Printing College Teachers (Graduate Level) Correspondents & Reporters Editors & Writers Media Analysts/Buyers Other Engineers Photographers Printing Service Estimators Public Relations Specialists Technical Directors, Radio/TV
	Graduate	BALANCED	22	27-32	SOME IMPROVEMENT	$16,000-$17,000	
240101 LIBERAL/GENERAL STUDIES See Comment #5	Baccalaureate	COMPETITIVE	705	446-678	ABOUT THE SAME	$17,000-$19,000	College Teachers (Graduate Level) Group Recreation Workers Other Teachers Paralegal Personnel Public Relations Specialists Social Scientists
	Graduate	COMPETITIVE	280	147-224	ABOUT THE SAME	$17,000-$19,000	
380101 PHILOSOPHY	Baccalaureate	COMPETITIVE	38	25-38	ABOUT THE SAME	$14,000-$16,000	Adult Education Teachers College Teachers (Graduate Level) Social Scientists Welfare Service Aides
	Graduate	COMPETITIVE	See Comment #7		ABOUT THE SAME	$16,000-$17,000	
380201 RELIGION See Comment #1	Baccalaureate	BALANCED	283	243-370	ABOUT THE SAME	$14,000-$17,000	Adult Education Teachers Camp Directors Caseworkers Clergy College Teachers (Graduate Level) Directors Religious Activity Group Recreation Workers Other Teachers Welfare Service Aides
	Graduate	BALANCED	493	441-671	ABOUT THE SAME	$19,000-$20,000	

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
160905 SPANISH See Comments #1, 3	Baccalaureate	BALANCED	71	64-98	SOME IMPROVEMENT	$14,000-$16,000	College Teachers (Graduate Level) Community Organization Workers Directors Religious Activity Employment Interviewers Group Recreation Workers Other Teachers Personnel/Labor Relations Specls Public Relations Specialists Travel Agents Welfare Service Aides
	Graduate	BALANCED	21	23-35	SOME IMPROVEMENT	$19,000-$20,000	
231001 SPEECH, DEBATE AND FORENSICS See Comments #1, 6	Baccalaureate	BALANCED	212	176-268	ABOUT THE SAME	$14,000-$16,000	Adult Education Teachers Chief Executives/Administrators College Teachers (Graduate Level) Employment Interviewers Group Recreation Workers Other Teachers Therapists, Speech & Hearing Paralegal Personnel Personnel/Labor Relations Specls Public Relations Specialists Radio & Television Announcers Sales Managers, Retail Trade
	Graduate	BALANCED	145	151-228	SOME IMPROVEMENT	$17,000-$19,000	

COMMENTS - LIBERAL ARTS, LANGUAGES, AND JOURNALISM

1. Employment opportunity ratings by institutions ranged from EXCELLENT to COMPETITIVE or KEENLY COMPETITIVE for English; Philosophy; Speech; Spanish; Religion; and Other Liberal Arts. This indicates that employment opportunities for graduates of these programs vary widely throughout the state.
2. English includes programs in Comparative Literature; English as a Second/Foreign Language; and Creative Writing. English majors who combine English with Business, Computer Science or some other marketable skill are more successful in finding employment outside of teaching. Employment opportunities for English majors with teaching certificates are covered in the Education section of these tables.
3. Spanish and other Foreign Language majors have a better job opportunity when combining their major with another such as Foreign Service, Business or Journalism. Foreign Languages, Multi-Emphasis includes all languages except Spanish. French and German together account for about 70 percent of these foreign language graduates. Employment opportunities for foreign language majors with teaching certificates are covered in the Education section of these tables.
4. Journalism (Mass Communications): Employment opportunity ratings by institutions ranged from EXCELLENT to KEENLY COMPETITIVE. This indicates that employment opportunities for graduates vary widely throughout the state. Journalism (Mass Communications) includes programs in Printing; Photojournalism; and Radio/Television News Broadcasting.
5. Liberal/General Studies includes programs in Humanities; Applied Arts and Sciences; Interdisciplinary Studies; International Studies; and Pre-Law.
6. Speech, Debate and Forensics includes programs in Speech Pathology/Audiology and Public Address.
7. Market ready supply is expected to total less than 15; statistical supply-demand comparisons cannot be determined.

OVERALL EMPLOYMENT OPPORTUNITIES FOR GRADUATES OF PROGRAMS IN

SOCIAL SCIENCES AND SOCIAL SERVICES

During the period 1985-1986, employment opportunities for workers entering the job market with baccalaureate and graduate degrees in Social Sciences and Social Services should be COMPETITIVE to BALANCED. An exception is Criminal Justice Studies, which is rated as VERY GOOD at the graduate level.

Employment conditions for the five-year period ending 1990-1991 should remain ABOUT THE SAME for most programs.

Other than teaching, there are only limited employment opportunities in directly related job occupations at the baccalaureate level for graduates of many of the Social Sciences, such as Anthropology, Geography, Government/Political Science, History, and Sociology. Consequently, many students not going into teaching, or planning to continue their education, combine Social Sciences with more marketable programs such as Business, Computer Science, or another technical field in order to take advantage of better employment opportunities.

The tables that follow on pages 57 to 60 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following degree programs:

Anthropology
Criminal Justice Studies
Economics
Geography
History
Political Science and Government
Psychology, General
Public Affairs, General
Social Sciences, General
Sociology
Social Work, General

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1988)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
450201 ANTHROPOLOGY	Baccalaureate	COMPETITIVE	44	19-29	ABOUT THE SAME	$13,000-$16,000	Archivists & Curators Caseworkers College Teachers (Graduate Level) Health Technologists/Technicians Other Teachers Social Scientists Survey Workers
	Graduate	COMPETITIVE	36	17-26	ABOUT THE SAME	$17,000-$18,000	
430104 CRIMINAL JUSTICE STUDIES See Comments #1, 2	Baccalaureate	BALANCED	584	710-1,079	SOME IMPROVEMENT	$15,000-$18,000	Bailiffs Caseworkers Chief Executives/Administrators Claims Examiners Correction Officers & Jailers Court Clerks Fire Insurance Inspectors Insurance Investigators/Inspctrs Paralegal Personnel Police Detectives Police Officers Railroad Police Sheriffs & Sheriff's Officers Store Detectives Vocational Education Counselors
	Graduate	VERY GOOD	49	68-104	SOME IMPROVEMENT	$18,000-$19,000	
450601 ECONOMICS See Comment #1	Baccalaureate	BALANCED	245	253-385	ABOUT THE SAME	$19,000-$20,000	Actuaries Chief Executives/Administrators Claims Adjusters College Teachers (Graduate Level) Commodities Brokers Credit Analysts/Authorizers Economists Financial Analysts Financial Service Sales Agents Market Research Analysts Purchasing Agents & Buyers Securities Traders Social Scientists Tax Examiners/Collectors
	Graduate	BALANCED	67	111-168	ABOUT THE SAME	$20,000-$22,000	
450701 GEOGRAPHY See Comment #1	Baccalaureate	COMPETITIVE	58	38-57	ABOUT THE SAME	$17,000-$19,000	College Teachers (Graduate Level) Life & Physical Scientists Other Engineering Technicians Science Technicians Surveyors Urban & Regional Planners
	Graduate	BALANCED	See Comment #5		SOME IMPROVEMENT	$18,000-$19,000	

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
450801 HISTORY	Baccalaureate	COMPETITIVE	333	195-297	ABOUT THE SAME	$14,000-$16,000	Adult Education Teachers Archivists & Curators College Teachers (Graduate Level) Editors & Writers Library Assistants Paralegal Personnel Social Scientists
	Graduate	COMPETITIVE	64	75-114	ABOUT THE SAME	$16,000-$18,000	
451001 POLITICAL SCIENCE AND GOVERNMENT See Comment #1	Baccalaureate	COMPETITIVE	397	339-515	ABOUT THE SAME	$15,000-$17,000	Broadcast News Analysts Chief Executives/Administrators College Teachers (Graduate Level) Community Organization Workers Contract Administrators Correspondents & Reporters Employment Interviewers Inspectors Paralegal Personnel Personnel/Labor Relations Specls Right-of-Way Agents Social Scientists Tax Examiners, Collectors Urban & Regional Planners
	Graduate	COMPETITIVE	55	75-114	ABOUT THE SAME	$19,000-20,000	
420101 PSYCHOLOGY, GENERAL See Comment #3	Baccalaureate	COMPETITIVE	790	502-764	ABOUT THE SAME	$14,000-$17,000	Caseworkers Child Care Attendants/Workers College Teachers (Graduate Level) Correction Officers Employment Interviewers Group Recreation Workers Health Aides, except Nursing Personnel/Labor Relations Specls Psychiatric Aides Psychologists (Graduate Level) Recreation Therapists Social Scientists Vocational Education Counselors Welfare Eligibility Workers Welfare Service Aides
	Graduate	BALANCED	232	243-369	SOME IMPROVEMENT	$19,000-$20,000	

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1982 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
440101 PUBLIC AFFAIRS, GENERAL	Baccalaureate	COMPETITIVE	See Comment #5		ABOUT THE SAME	$15,000-$16,000	Assessors Chief Executives/Administrators College Teachers (Graduate Level) Community Organization Workers Contract Administrators Employment Interviewers Paralegal Personnel Personnel/Labor Relations Specis Public Relations Specialists Survey Workers Tax Examiners & Collectors Traffic Technicians Urban & Regional Planners
	Graduate	COMPETITIVE	128	161-245	ABOUT THE SAME	$17,000-$19,000	
450101 SOCIAL SCIENCES, GENERAL See Comments #1, 4	Baccalaureate	COMPETITIVE	60	39-60	ABOUT THE SAME	$14,000-$16,000	Archivists & Curators College Teachers (Graduate Level) Social Scientists Survey Workers Urban & Regional Planners Vocational Education Counselors
	Graduate	COMPETITIVE	21	16-25	ABOUT THE SAME	$16,000-$17,000	
451101 SOCIOLOGY See Comment #1	Baccalaureate	COMPETITIVE	310	249-379	ABOUT THE SAME	$14,000-$16,000	Camp Directors Caseworkers Child Care Attendants/Workers College Teachers (Graduate Level) Community Organization Workers Directors Religious Activity Employment Interviewers Group Recreation Workers Paralegal Personnel Personnel/Labor Relations Specis Market Research Analysts Social Scientists Sociologists (Graduate Level) Survey Workers Urban & Regional Planners Vocational Education Counselors Welfare Investigators Welfare Service Aides
	Graduate	COMPETITIVE	77	78-119	SOME IMPROVEMENT	$18,000-$19,000	

TEXAS BACCALAUREATE AND GRADUATE LEVEL PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1988)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
440701 SOCIAL WORK, GENERAL See Comment #1	Baccalaureate	BALANCED	371	364-554	SOME IMPROVEMENT	$14,000-$16,000	Caseworkers Child Care Attendants/Workers College Teachers (Graduate Level) Corrections Officers Directors Religious Activity Group Recreation Workers Personnel/Labor Relations Specls Social Scientists Vocational Education Counselors Welfare Eligibility Workers Welfare Investigators Welfare Service Aides
	Graduate	BALANCED	249	228-347	SOME IMPROVEMENT	$18,000-$19,000	

COMMENTS - SOCIAL SCIENCES AND SOCIAL SERVICES

1. Employment opportunity ratings by institutions ranged from EXCELLENT or VERY GOOD to KEENLY COMPETITIVE for Economics; Sociology; Geography; Political Science and Government; Criminal Justice Studies; Social Sciences, General; and Social Work, General.
2. Criminal Justice Studies includes programs in Law Enforcement; Criminology and Corrections; and Criminal Justice Administration.
3. Psychology, General includes programs in Human Development; Behavioral Science; Counseling Psychology; and Family Counseling.
4. Social Sciences, General includes programs in Archeology and Urban Studies. Employment opportunities for Social Science majors with teaching certificates are covered in the Education section of these tables.
5. Market ready supply is expected to total less than 15; statistical supply-demand comparisons cannot be determined.

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EXPLANATION OF TABLES FOR POSTSECONDARY VOCATIONAL PROGRAMS

Organization of tables: The postsecondary vocational programs are grouped into broad program areas as follows;

Agriculture and Agribusiness
Business and Office
Marketing and Distribution
Allied Health
Home Economics
Technical Education
Trade and Industrial

Each broad program area begins with a brief description of overall employment opportunities, followed by tables which provide more specific information, and a comment section. The contents of the tables are explained in more detail below.

Program area code and title: Programs are identified in the left column of the tables by the Classification of Instructional Programs (CIP) codes and titles as defined by the National Center for Education Statistics.

Degree level: This column indicates the degree level for which information is given, either Certificate or Associate Degree.

Employment opportunity: Short-term employment opportunities for each degree level are expressed in the following terms: Excellent, Very Good, Balanced, Competitive, Keenly Competitive. These terms are defined in the Introduction, page 1. The ratings given are statewide composites based on survey responses from three or more institutions, except as noted in the comment section. Instances where ratings are borderline or vary widely among respondents are also noted in the comment section.

Market ready supply: The market ready supply is a projection of the number of annual completers from each program expected to enter the Texas job market. (Market ready supply includes completers from both associate degree and certificate level programs). Supply sources include public community/junior colleges, public senior colleges (offering vocational programs), Texas State Technical Institute, proprietary schools, job corps training centers, hospital based allied health programs, skill centers and public manpower training programs. In those cases where the market ready supply was less than 15, comparisons were not meaningful. Therefore, no supply or demand figures are shown in these cases.

Related job openings: The expected number of occupational openings in Texas available to program graduates in 1986 is expressed as a range. The high number represents the total expected job openings based on an assumed average annual growth rate of approximately 3.4 percent. The low end of the range has been adjusted downward in two ways; (1) an assumed average annual growth rate of approximately 2 percent, and (2) allowances for the historical pattern of net in-migration of job seekers to Texas.

Expected employment opportunity conditions (1990-1991): Expected change, if any, in supply-demand conditions over the five-year period ending in 1990-1991 is expressed in one of the following terms: Definite Improvement, Some Improvement, About the Same, Some Decline, or Definite Decline. These terms are defined in the Introduction, page 2.

Average annual salary range for 1984 graduates: Salary information is based on institutional placement experiences and institutional follow-up studies for the associate degree programs except where noted. The figures are either annual average salaries or a range of annual average salaries for the year 1984. These different reporting methods for the salary information were based on two or more responses from the institutions. Where there were multiple institutional reports with a significant variance, a high and a low salary range is reported to indicate this difference; otherwise, a single average is reported. It is important to note that these salary data apply to the early part of 1984 and that no attempts have been made to account for differences in geographic areas, qualifications of job seekers or type of employment. Therefore, the salaries listed are valid only as general guidelines.

Directly or closely related occupations: Occupations listed are those which are considered to be directly or closely related to the program of study, as defined in the Introduction, page 2. Job titles are based on the Occupational Employment Statistics (OES) dictionary titles as utilized by the Texas Employment Commission, and most of these titles are broad in scope.

General comments regarding data in the tables: Employment opportunity ratings are designed to depict the best estimate of statewide employment conditions for all graduates of Texas postsecondary vocational programs, considered as a group. Individuals should expect to encounter variances from these ratings based on their own qualifications or the geographic area involved.

OVERALL EMPLOYMENT OPPORTUNITIES FOR VOCATIONAL PROGRAM COMPLETERS IN

AGRICULTURE AND AGRIBUSINESS

During the period 1985-1986, employment opportunities for workers entering the job market with Certificates or Associate of Applied Science degrees in Agriculture and Agribusiness should be BALANCED. Exceptions to this general rating are Agricultural Business and Management, General, and Agricultural Products and Processing, General, both reflecting a VERY GOOD rating at the associate degree level. Also, KEENLY COMPETITIVE employment opportunities are noted at the associate degree level of Agriculture Mechanics, General, and both levels of Forestry Production and Processing, General.

Employment opportunities for the five-year period ending in 1990-1991 run the gamut from DEFINITE IMPROVEMENT to DEFINITE DECLINE.

The tables that follow on pages 67 and 68 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following vocational programs:

Agricultural Business and Management, General
Farm and Ranch Management
Agricultural Mechanics, General
Animal Production
Agricultural Products and Processing, General
Agricultural Services and Supplies, General
Horticulture, General
Forestry Production and Processing, General

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
010101 AGRICULTURAL BUSINESS AND MANAGEMENT, GENERAL See Comment #2	Certificate	BALANCED	60	154-233	SOME IMPROVEMENT	$13,000-$14,000	Auctioneers Buyers, Wholesale, Retail Trade Chief Executives/Administrators Farmers and Farm Managers Other Managers Sales Clerk Supervisors Wholesalers
	Associate Degree	VERY GOOD			DEFINITE IMPROVEMENT		
010104 FARM AND RANCH MANAGEMENT See Comment #2	Certificate	BALANCED	87	201-286	ABOUT THE SAME	$14,000-$15,000	Buyers, Wholesale, Retail Trade Farmers and Farm Managers Farm Labor Supervisors Sales Clerks Sales Clerk Supervisors
	Associate Degree	BALANCED			ABOUT THE SAME		
010201 AGRICULTURAL MECHANICS, GENERAL See Comments #2, 3, 8	Certificate	BALANCED	90	130-197	SOME DECLINE	$11,000-$13,000	Diesel Mechanics Engineering Equip Mechanics Farm Equipment Mechanics Hydroelectric Machine Mechanics Maintenance Mechanics Other Mechanics & Repairers
	Associate Degree	KEENLY COMPETITIVE			DEFINITE DECLINE		
010302 ANIMAL PRODUCTION See Comments #2, 6	Certificate	BALANCED	311	588-821	ABOUT THE SAME	$13,000-$14,000	Animal Caretakers Biological & Agricultural Science Technicians Blue Collar Working Supervisors Farmers and Farm Managers Nonworking Supervisors Other Health Technicians
	Associate Degree	BALANCED			ABOUT THE SAME		
010401 AGRICULTURAL PRODUCTS AND PROCESSING, GENERAL See Comments #2, 4, 6	Certificate	BALANCED	198	548-852	SOME DECLINE	$17,000-$19,000	Biological & Agricultural Science Technicians Blue Collar Working Supervisors Butchers and Meat Cutters Buyers, Wholesale, Retail Trade Dairy/Meat Machine Operatives Farm Laborers Farmers and Farm Managers Food Product Machine Operatives Mixing Operatives Nonworking Supervisors Other Machine Operatives Packers and Inspectors Sales Workers/Clerks
	Associate Degree	VERY GOOD			ABOUT THE SAME		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
010501 AGRICULTURAL SERVICES AND SUPPLIES, GENERAL See Comments #2, 5	Certificate	BALANCED	See Comment #7		SOME IMPROVEMENT	$13,000-$14,000	Buyers, Wholesale, Retail Trade Other Managers Sales Managers, Retail Trade Store Managers Wholesalers
	Associate Degree	BALANCED			SOME IMPROVEMENT		
010601 HORTICULTURE, GENERAL See Comments #2, 6	Certificate	BALANCED	210	444-670	ABOUT THE SAME	$14,000-$15,000	Farmers Foresters & Conservation Sci Gardeners and Groundskeepers Sales Workers/Clerks
	Associate Degree	BALANCED			SOME IMPROVEMENT		
030401 FORESTRY PRODUCTION AND PROCESSING, GENERAL See Comments #1, 9	Certificate	KEENLY COMPETITIVE	See Comment #7		ABOUT THE SAME	$9,000	Foresters & Conservation Sci Gardeners and Groundskeepers Log & Lumber Inspectors, Graders Lumber Machine Operatives Paper Machine Operatives Paper Machine Setters Timber Cruisers
	Associate Degree	KEENLY COMPETITIVE			ABOUT THE SAME		

COMMENTS - AGRICULTURE AND AGRIBUSINESS

1. Employment opportunity ratings at the certificate level for Forestry Production and Processing, General are based on a report from one institution; ratings for Agricultural Mechanics, General are based on reports from two institutions.
2. Many of these agricultural jobs are passed on within families, and thus the number of openings may not accurately reflect market demand.
3. Employment opportunity ratings at the associate degree level for Agricultural Mechanics, General are based on a report from one institution.
4. Agricultural Products and Processing, General includes Crop Production.
5. Agricultural Services and Supplies, General includes Agricultural Supplies Marketing.
6. Employment opportunity ratings by institutions ranged from EXCELLENT to COMPETITIVE or KEENLY COMPETITIVE for Horticulture, General; Animal Production; and Agricultural Products and Processing, General. This indicates that employment opportunities for completers of these programs vary widely throughout the state.
7. The market ready supply for Agricultural Services and Supplies, General, and Forestry Production and Processing, General, is expected to total less than 15; statistical supply-demand comparisons cannot be determined.
8. Salary information for Agricultural Mechanics, General is based on data about the certificate level program only.
9. Salary information for Forestry Production and Processing, General is based on data from one institution.

OVERALL EMPLOYMENT OPPORTUNITIES FOR VOCATIONAL PROGRAM COMPLETERS IN

BUSINESS AND OFFICE

During the period 1985-1986, employment opportunities for workers entering the job market with Certificates or Associate of Applied Science degrees in Business and Office should be VERY GOOD. Exceptions to this rating are the certificate level of Accounting and Computing, which is BALANCED, and both levels of Mail and Order Clerk. An EXCELLENT rating was determined for both levels of Court Reporting.

Employment opportunities for the five-year period ending 1990-1991 should show SOME IMPROVEMENT or a DEFINITE IMPROVEMENT. The only exception to this is the certificate level of Court Reporting, which should remain ABOUT THE SAME.

The tables that follow on pages 71 to 73 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following vocational programs:

Business Administration and Management, General
Accounting and Computing
Business Computer and Console Operation
Business Data Programming
Secretarial and Related Programs, General
Court Reporting
Word Processing
Typing, General Office, and Related Programs
General Office Clerk
Mail and Order Clerk
Business and Office, Other

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
060401 BUSINESS ADMINISTRATION AND MANAGEMENT, GENERAL See Comments #1, 2	Certificate	VERY GOOD	1,137	1,651-2,563	SOME IMPROVEMENT	$17,000-$19,000	Appraisers Bookkeepers Chief Executives/Administrators Clerical Supervisors Contract Administrators Credit Analysts/Authorizers Credit Reporters Office/Plant Clerical Other Managers Secretaries
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
070102 ACCOUNTING AND COMPUTING See Comments #2, 3	Certificate	BALANCED	4,968	5,337-8,145	SOME IMPROVEMENT	$13,000-$14,000	Accountants and Auditors Accounting Clerks Assessors Bookkeepers Bookkeeping/Billing Machine Oprs Insurance Raters Payroll/Personnel Clerks Tax Examiners/Collectors Tax Preparers
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
070302 BUSINESS COMPUTER AND CONSOLE OPERATION	Certificate	VERY GOOD	328	314-478	SOME IMPROVEMENT	$13,000-$14,000	Computer Operators Keypunch Operators Peripheral Equipment Operators Statistical Clerks
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
070305 BUSINESS DATA PROGRAMMING See Comments #2, 4, 5, 7	Certificate	VERY GOOD	2,390	3,374-5,218	SOME IMPROVEMENT	$16,000-$17,000	Actuarial Clerks Computer Operators Computer Programmers Computer Systems Analysts Insurance Raters Keypunch Operators Office Clerks Other Managers Peripheral Equipment Operators Statistical Clerks
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
070601 SECRETARIAL AND RELATED PROGRAMS, GENERAL See Comments #2, 5, 6, 7	Certificate	VERY GOOD	7,010	7,552-11,504	DEFINITE IMPROVEMENT	$11,000-$13,000	Bookkeepers Clerical Supervisors Office Machine Operators Office/Plant Clerical Receptionists Secretaries Stenographers Telephone Switchboard Operators Typists
	Associate Degree	VERY GOOD			DEFINITE IMPROVEMENT		
070602 COURT REPORTING See Comment #10	Certificate	EXCELLENT	70	199-303	ABOUT THE SAME	$23,000-$25,000	Court Clerks
	Associate Degree	EXCELLENT			DEFINITE IMPROVEMENT		
070608 WORD PROCESSING See Comments #5, 7	Certificate	VERY GOOD	389	453-690	DEFINITE IMPROVEMENT	$14,000-$15,000	Computer Operators Keypunch Operators Office Machine Operators Peripheral Equipment Operators Secretaries Typists
	Associate Degree	VERY GOOD			DEFINITE IMPROVEMENT		
070701 TYPING, GENERAL OFFICE, AND RELATED PROGRAMS See Comment #7	Certificate	VERY GOOD	1,251	1,939-2,954	SOME IMPROVEMENT	$13,000-$14,000	Actuarial Clerks File Clerks General Office Clerks Statistical Clerks Survey Workers Typists
	Associate Degree	VERY GOOD			DEFINITE IMPROVEMENT		
070705 GENERAL OFFICE CLERK See Comments #2, 7	Certificate	VERY GOOD	1,228	2,539-3,868	SOME IMPROVEMENT	$14,000-$15,000	Bookkeepers Bookkeeping/Billing Machine Oprs Clerical Supervisors General Office Clerks Mail, File, Claim Clerks Office Machine Operators Office/Plant Clerical Payroll/Personnel Clerks Secretaries Typists
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
070706 MAIL AND ORDER CLERK See Comments #8, 9	Certificate	BALANCED	52	85-130	SOME IMPROVEMENT	$11,000-$17,000	Counter Clerks Mail Carriers Mail Clerks Postal Clerks Postmaster/Mail Superintendents Shipping Packers
	Associate Degree	BALANCED			SOME IMPROVEMENT		
079999 BUSINESS AND OFFICE, OTHER See Comment #7	Certificate	VERY GOOD	81	165-251	SOME IMPROVEMENT	$13,000-$14,000	Employment Interviewers Secretaries Typists
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		

COMMENTS - BUSINESS AND OFFICE

1. Business Administration and Management, General includes Office Supervision and Management.
2. Employment opportunity ratings by institutions ranged from EXCELLENT to COMPETITIVE or KEENLY COMPETITIVE for Business Administration and Management, General; Accounting and Computing; Business Data Programming; and General Office Clerk, at the certificate level.
3. Accounting and Computing includes Accounting, Bookkeeping, and Related Programs, General.
4. Business Data Programming includes Business Data Processing and Related Programs, Other.
5. Employment opportunity ratings by institutions ranged from EXCELLENT to COMPETITIVE or KEENLY COMPETITIVE for Business Data Programming; Secretarial and Related Programs; and Word Processing, at the associate degree level. This indicates that employment opportunities for completers of these programs vary widely throughout the state.
6. Secretarial and Related Programs, General includes Secretarial.
7. Because of economic reasons and time limitations, many students in the computer programming, office, and secretarial fields take just enough courses to qualify for a specific entry level or career upgrade and are not recorded as "completing" a certificate or associate degree level program. Nevertheless, they enter the labor market and compete for jobs. Consequently, the market ready supply for these programs is probably understated.
8. Salary information for Mail and Order Clerks is based on data from one institution.
9. Employment opportunity ratings at the certificate level for Mail and Order Clerk are based on reports from two institutions.
10. Employment opportunity ratings at the certificate level for Court Reporting are based on a report from one institution.

OVERALL EMPLOYMENT OPPORTUNITIES FOR VOCATIONAL PROGRAM COMPLETERS IN

MARKETING AND DISTRIBUTION

During the period 1985-1986, employment opportunities for workers entering the job market with Certificates or Associate of Applied Science degrees in Marketing and Distribution should be BALANCED to VERY GOOD. An exception to these general ratings is the rating of EXCELLENT at the associate degree level of Restaurant Management and the certificate level of Food Marketing, General. Only the area of Transportation and Travel Marketing, General was rated COMPETITIVE, and that was at the associate degree level.

Employment opportunities for the five-year period ending 1990-1991 should be ABOUT THE SAME or show SOME IMPROVEMENT.

The tables that follow on pages 75 to 77 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following vocational programs:

Hotel/Motel Management
Restaurant Management
Marketing Management
Real Estate, General
Fashion Merchandising
Banking Marketing
Credit Marketing
Food Marketing, General
General Marketing, Other
Insurance Marketing, General
Transportation and Travel Marketing, General
Automotive Vehicles and Accessories Marketing

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
060701 HOTEL/MOTEL MANAGEMENT See Comment #3	Certificate	Not Available	69	83-129	ABOUT THE SAME	$16,000-$17,000	Desk Clerks Other Managers
	Associate Degree	BALANCED			ABOUT THE SAME		
060704 RESTAURANT MANAGEMENT See Comment #7	Certificate	Not Available	See Comment #7		Not Available	$15,000-$16,000	Bakers Coffee, Pantry & Sandwich Makers Other Managers Restaurant, Cafe, Bar Managers Restaurant Cooks
	Associate Degree	EXCELLENT			DEFINITE IMPROVEMENT		
061401 MARKETING MANAGEMENT See Comment #8	Certificate	VERY GOOD	1,782	3,683-5,630	SOME IMPROVEMENT	$16,000-$17,000	Auto Service and Parts Managers Blue Collar Working Supervisors Buyers, Wholesale,Retail Trade Chief Executives/Administrators Clerical Supervisors Crating and Moving Estimators Customer Service Representatives Employment Interviewers Nonworking Supervisors Personnel/Labor Relations Specls Postmasters/Mail Superintendents Sales Managers, Retail Trade Service Observers and Reps Sales Clerk Supervisors Store Managers
	Associate Degree	BALANCED			SOME IMPROVEMENT		
061701 REAL ESTATE, GENERAL See Comments #1, 4, 5, 6, 11	Certificate	BALANCED	1,618	1,705-2,616	SOME IMPROVEMENT	$16,000-$17,000	Chief Executives/Administrators Credit Analysts/Authorizers Credit Reporters Real Estate Appraisers Real Estate Brokers/Agents Title Examiners and Abstractors
	Associate Degree	BALANCED			SOME IMPROVEMENT		
080102 FASHION MERCHANDISING See Comments #5, 6, 8	Certificate	VERY GOOD	444	862-1,354	SOME IMPROVEMENT	$9,000-$11,000	Buyers, Wholesale, Retail Trade Fashion Coordinators Public Relations Specialists Sales Clerk Supervisors Sales Managers, Retail Trade Sales Workers/Clerks Store Managers
	Associate Degree	BALANCED			SOME IMPROVEMENT		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
080402 BANKING MARKETING See Comment #6	Certificate	VERY GOOD	733	979-1,508	SOME IMPROVEMENT	$14,000-$15,000	Bank Tellers Bookkeeping/Billing Machine Oprs Commodities and Portfolio Mgrs Contract Administrators Financial Services Sales Agents Proof Machine Operators Securities Traders & Specialists Tabulating Machine Operators
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
080403 CREDIT MARKETING See Comments #5, 7	Certificate	VERY GOOD	See Comment #7		SOME IMPROVEMENT	$14,000-$19,000	Bill and Account Collectors Bookkeeping/Billing Machine Oprs Credit Analysts/Authorizers Credit Reporters Financial Services Sales Agents
	Associate Degree	BALANCED			SOME IMPROVEMENT		
080601 FOOD MARKETING, GENERAL See Comments #3, 5, 9	Certificate	EXCELLENT	231	1,008-1,539	ABOUT THE SAME	$11,000-$14,000	Butchers and Meat Cutters Buyers, Wholesale and Retail Cashiers Restaurant, Cafe, Bar Managers Sales Managers, Retail Trade Stock Clerks Store Managers
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
080799 GENERAL MARKETING, OTHER See Comments #2, 5, 8	Certificate	VERY GOOD	250	559-866	SOME IMPROVEMENT	$13,000-$14,000	Auctioneers Buyers, Wholesale, Retail Trade Counter Clerks Media Analysts and Buyers Other Managers Public Relations Specialists Purchasing Agents and Buyers Sales Clerk Supervisors Sales Managers, Retail Trade Sales Workers/Clerks Stock Clerks Store Managers Wholesalers
	Associate Degree	VERY GOOD			DEFINITE IMPROVEMENT		
081001 INSURANCE MARKETING, GENERAL See Comments #5, 7, 10	Certificate	VERY GOOD	See Comment #7		DEFINITE IMPROVEMENT	$17,000-$19,000	Claim Agents/Examiners/ Adjusters/Clerks Fire Insurance Building Inspector Inspectors, except Construction Insurance Checkers Insurance Investigators/Special Agents Insurance Sales Agents and Reps Underwriters
	Associate Degree	VERY GOOD			DEFINITE IMPROVEMENT		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
081101 TRANSPORTATION AND TRAVEL MARKETING, GENERAL See Comments #3, 6	Certificate	VERY GOOD	713	871-1,331	DEFINITE IMPROVEMENT	$17,000-$19,000	Bus/Truck/Taxi Drivers Chauffeurs Counter Clerks Crating and Moving Estimators Delivery and Route Workers Locomotive Engineers Ship Captains/Pilots Transportation Agents Travel Agents Travel Counselors, Auto Club Vehicle Dispatchers Yard Engineers
	Associate Degree	COMPETITIVE			ABOUT THE SAME		
081203 AUTOMOTIVE VEHICLES AND ACCESSORIES MARKETING See Comment #5	Certificate	VERY GOOD	27	108-164	ABOUT THE SAME	$19,000-$21,000	Auto Seat Cover/Top Installers Auto Service and Parts Managers Other Managers Sales Workers/Clerks Stock Clerks
	Associate Degree	BALANCED			SOME IMPROVEMENT		

COMMENTS - MARKETING AND DISTRIBUTION

1. Real Estate, General includes Real Estate Appraisal.
2. General Marketing, Other includes Marketing and Distribution, Other.
3. Employment opportunity ratings at the certificate level for Hotel/Motel Management, and Transportation and Travel Marketing, General, are based on a report from one institution. Ratings for Food Marketing, General is based on a report from one institution.
4. Employment opportunity ratings by institutions ranged from EXCELLENT to KEENLY COMPETITIVE for Real Estate, General at the certificate level.
5. Employment opportunity ratings by institutions ranged from EXCELLENT to COMPETITIVE or KEENLY COMPETITIVE for Real Estate, General; Fashion Merchandising; Credit Marketing; Insurance Marketing, General; Food Marketing, General; General Marketing, Other; and Automotive Vehicles and Accessories Marketing, at the associate degree level. This indicates that employment opportunities for completers of these programs vary widely throughout the state.
6. Because of economic reasons and time limitations, many students in the real estate, fashion merchandising, banking, and transportation fields only take enough courses to qualify for a specific entry level job or career upgrade and are not recorded as "completing" a certificate or associate degree level program. Nevertheless, they enter the labor market and compete for jobs. Consequently, the market ready supply for these programs is probably understated.
7. The market ready supply for Restaurant Management; Credit Marketing; and Insurance Marketing, General; is expected to total less than 15; statistical supply-demand comparisons cannot be determined.
8. The number of related job openings indicated for Marketing Management; Fashion Merchandising; and General Marketing, Other; is high in comparison with the expected supply and the employment opportunity rating because this number includes openings for other sales workers, which in many cases would only be generally related to the programs of study.
9. The number of related job openings indicated for Food Marketing, General is high in comparison with the expected supply and employment opportunity rating because this number includes openings for waiters and waitresses which in many cases would only be generally related to the program of study.
10. Salary information for Insurance Marketing, General is based on data from one institution.
11. The starting salaries may vary greatly as real estate workers are usually paid on a commission basis.

OVERALL EMPLOYMENT OPPORTUNITIES FOR VOCATIONAL PROGRAM COMPLETERS IN

ALLIED HEALTH

During the period 1985-1986, employment opportunities for workers entering the job market with Certificates or Associate of Applied Science degrees in Allied Health should be BALANCED to VERY GOOD. An exception to these general ratings is the rating of COMPETITIVE at the certificate level of Dental Hygiene and Medical Laboratory Technology. An EXCELLENT rating can be found for Physical Therapy Assisting at the certificate level.

Employment opportunities for the five-year period ending in 1990-1991 range from DEFINITE IMPROVEMENT to SOME DECLINE.

The tables that follow on pages 79 to 82 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following vocational programs:

Dental Assisting
Dental Hygiene
Dental Laboratory Technology
Emergency Medical Technology-Paramedic
Radiograph Medical Technology
Respiratory Therapy Technology
Surgical Technology
Medical Laboratory Technology
Mental Health/Human Services Technology
Medical Assisting
Medical Records Technology
Ward Clerk
Nursing Assisting
Practical Nursing
Ophthalmic Dispensing
Occupational Therapy Assisting
Physical Therapy Assisting
Recreational Therapy Technology
Rehabilitation Services, Other
Allied Health, Other
Nursing, General

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
170101 DENTAL ASSISTING See Comment #5	Certificate	VERY GOOD	466	319-489	SOME IMPROVEMENT	$9,000-$14,000	Dental Assistants Dental Laboratory Technicians Health Aides, except Nursing Medical and Dental Technologists
	Associate Degree	BALANCED			SOME IMPROVEMENT		
170102 DENTAL HYGIENE See Comments #3, 5	Certificate	COMPETITIVE	211	155-237	SOME DECLINE	$16,000-$19,000	Dental Hygienist Dental Laboratory Technicians Medical and Dental Technologists
	Associate Degree	BALANCED			ABOUT THE SAME		
170103 DENTAL LABORATORY TECHNOLOGY See Comments #3, 4	Certificate	BALANCED	132	145-222	SOME IMPROVEMENT	$11,000-$13,000	Dental Assistants Dental Hygienists Dental Laboratory Technicians Medical and Dental Technologists
	Associate Degree	BALANCED			ABOUT THE SAME		
170206 EMERGENCY MEDICAL TECHNOLOGY-PARAMEDIC See Comments #5, 6	Certificate	BALANCED	238	215-313	DEFINITE IMPROVEMENT	$11,000-$16,000	Ambulance Attendants/Drivers Emergency Medical Technicians Health Aides, except Nursing Nurses Aides and Orderlies Other Health Technicians
	Associate Degree	VERY GOOD			DEFINITE IMPROVEMENT		
170209 RADIOGRAPH MEDICAL TECHNOLOGY See Comment #5	Certificate	VERY GOOD	495	280-429	DEFINITE IMPROVEMENT	$14,000-$15,000	Medical Lab Assistants/Techs Radiologic/Nuclear Medicine Techs X-Ray Technicians
	Associate Degree	BALANCED			ABOUT THE SAME		
170210 RESPIRATORY THERAPY TECHNOLOGY	Certificate	VERY GOOD	346	314-464	SOME IMPROVEMENT	$14,000-$17,000	EKG/EEG Technicians Inhalation Therapists Nurses Aides and Orderlies
	Associate Degree	VERY GOOD			ABOUT THE SAME		
170211 SURGICAL TECHNOLOGY See Comments #2, 5	Certificate	BALANCED	176	167-250	SOME IMPROVEMENT	$11,000-$14,000	Health Technologists/Technicians Medical Lab Assistants/Techs Nurses Aides and Orderlies Surgical Technicians
	Associate Degree	BALANCED			ABOUT THE SAME		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
170309 MEDICAL LABORATORY TECHNOLOGY See Comments #1, 5	Certificate	COMPETITIVE	889	655-1,005	ABOUT THE SAME	$14,000-$15,000	Blood Bank Technologists Health Aides, except Nursing Health Technologists/Techs Medical Lab Assistants/Techs Nurses Aides and Orderlies
	Associate Degree	BALANCED			SOME IMPROVEMENT		
170406 MENTAL HEALTH/HUMAN SERVICES TECHNOLOGY See Comment #5	Certificate	BALANCED	135	364-550	SOME IMPROVEMENT	$11,000-$13,000	Caseworkers Psychiatric Aides Teacher Aides
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
170503 MEDICAL ASSISTING See Comments #3, 5	Certificate	VERY GOOD	900	1,166-1,697	DEFINITE IMPROVEMENT	$9,000-$13,000	Health Aides, except Nursing Medical and Dental Technologists Medical Lab Assistants/Techs Nurses Aides and Orderlies Psychiatric Aides
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
170506 MEDICAL RECORDS TECHNOLOGY See Comment #5	Certificate	VERY GOOD	191	317-483	SOME IMPROVEMENT	$9,000-$14,000	Health Record Technologists Insurance Checkers Office Clerical Secretaries
	Associate Degree	VERY GOOD			DEFINITE IMPROVEMENT		
170513 WARD CLERK See Comments #3, 7, 8	Certificate	BALANCED	471	445-678	ABOUT THE SAME	$9,000	Office Clerical
	Associate Degree	Not Available			Not Available		
170602 NURSING ASSISTING See Comments #4, 7, 8	Certificate	BALANCED	985	980-1,449	ABOUT THE SAME	$9,000	Nurses Aides and Orderlies Office Clerical
	Associate Degree	BALANCED			ABOUT THE SAME		
170605 PRACTICAL NURSING See Comments #5, 8	Certificate	BALANCED	3,898	4,205-6,231	ABOUT THE SAME	$9,000-$13,000	Licensed Practical Nurses Nurses Aides and Orderlies Surgical Technicians
	Associate Degree	VERY GOOD			ABOUT THE SAME		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
170701 OPHTHALMIC DISPENSING	Certificate	VERY GOOD	47	44-66	SOME IMPROVEMENT	$11,000-$13,000	Lens Grinders Opticians/Optical Mechanics
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
170808 OCCUPATIONAL THERAPY ASSISTING See Comments #3, 4	Certificate	VERY GOOD	56	58-89	DEFINITE IMPROVEMENT	$9,000-$14,000	Adult Education Teachers Health Aides, except Nursing Nurses Aides and Orderlies Psychiatric Aides
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
170815 PHYSICAL THERAPY ASSISTING See Comments #3, 5	Certificate	EXCELLENT	77	97-147	ABOUT THE SAME	$13,000-$14,000	Artificial Appliance Makers Health Aides, except Nursing Physical Therapy Technicians
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
170817 RECREATIONAL THERAPY TECHNOLOGY See Comment #4	Certificate	Not Available	101	35-53	Not Available	$13,000-$14,000	Athletes Athletic Trainers/Instructors Camp Directors Group Recreation Workers
	Associate Degree	VERY GOOD			DEFINITE IMPROVEMENT		
170899 REHABILITATION SERVICES, OTHER See Comment #3	Certificate	BALANCED	188	246-371	ABOUT THE SAME	$15,000-$16,000	Health Aides, except Nursing Health Technicians Psychiatric Aides Teachers Aides Vocational Education Counselors
	Associate Degree	BALANCED			ABOUT THE SAME		
179999 ALLIED HEALTH, OTHER	Certificate	BALANCED	238	292-444	SOME IMPROVEMENT	$13,000-$14,000	EKG/EEG Technicians Health Aides, except Nursing Nurses Aides and Orderlies Pharmacy Assistants Psychiatric Aides Radiologic/Nuclear Medical Techs X-Ray Technicians
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
181101 NURSING, GENERAL See Comments #5, 8, 9	Certificate	BALANCED	3,191	3,429-5,083	SOME DECLINE	$16,000-$17,000	Health Technologists/Techs Licensed Practical Nurses Nurses Aides and Orderlies Professional Nurses Surgical Technicians
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		

COMMENTS - ALLIED HEALTH

1. Medical Laboratory Technology includes Clinical Laboratory Assisting.

2. Salary information for Surgical Technology is based on data from one institution.

3. Employment opportunity ratings at the certificate level for Physical Therapy Assisting and Rehabilitation Services, Other are based on a report from one institution; ratings for Dental Laboratory Technology; Medical Assisting; and Occupational Therapy Assisting, are based on reports from two institutions.

4. Employment opportunity ratings at the associate degree level for Nursing Assisting and Recreational Therapy Technology are based on a report from one institution; Occupational Therapy Assisting is based on reports from two institutions.

5. Employment opportunity ratings by institutions ranged from EXCELLENT to COMPETITIVE or KEENLY COMPETITIVE at the certificate level for Dental Assisting; Emergency Medical Technology-Paramedic; Practical Nursing; and Nursing, General; and at the associate degree level for Dental Hygiene; Medical Laboratory Technology; Radiograph Medical Technology; Surgical Technology; Medical Assisting; Medical Records Technology; Nursing, General; and Physical Therapy Assisting. This indicates that employment opportunities for completers of these programs vary widely throughout the state.

6. Because of economic reasons and time limitations many students in the emergency medical-paramedic field take just enough courses to qualify for a specific entry level job or career upgrade and are not recorded as "completing" a certificate or associate degree level program. Nevertheless, they enter the labor market and compete for jobs, many on a part-time or volunteer basis. Consequently, the market ready supply for this program is difficult to quantify.

7. Salary information for Ward Clerk and Nursing Assisting is based on data about certificate level programs only.

8. A new plan is being phased in throughout the United States which will have an impact on the supply and demand of registered nurses, licensed vocational nurses, and orderlies/aides. Hospitals are already in the process of cutting back in nursing manpower. Job positions for orderlies and aides are being deleted. Licensed vocational nurse positions are being either deleted or upgraded to registered nurse positions. Under this plan, (Diagnostic Related Group-DRG's) hospitals must hire the most productive worker. Registered nurses can assume all the duties formerly delegated to orderlies and LVN's.

9. Nursing, General: In a report to the Coordinating Board in July 1983, the Nursing Education Advisory Committee stated that the acute nurse shortage previously documented in 1981 by the Texas Hospital Association and other sources has been reduced. The Committee warned, however, that this reduction of the gap between supply and demand for nurses may not continue.

   In 1984, a total of 4,181 nurses were newly registered by the Board of Nurse Examiners for the State of Texas. This number includes diploma, associate degree, and baccalaureate degree nurses. Another 4,169 were newly endorsed from out-of-state. Historically, about 45 percent of the nurses licensed in Texas come from out-of-state.

   The Advisory Committee report projects an annual supply of approximately 5,000 new licensed registered nurses. This projection is based on a continuation of the strong pattern of in-migration of nurses and an increase in the output of Texas nursing schools. Considering attrition and nursing requirements for an adequate number of registered nurses, by 1987 Texas would have a shortage of approximately 4,000 registered nurses.

OVERALL EMPLOYMENT OPPORTUNITIES FOR VOCATIONAL PROGRAM COMPLETERS IN

HOME ECONOMICS

During the period 1985-1986, employment opportunities for workers entering the job market with Certificates or Associate of Applied Science degrees in Home Economics should be COMPETITIVE to BALANCED. Two exceptions to this general rating are in Child Care and Guidance Management and Services, Other, and Food Production, Management and Services, General; both are rated VERY GOOD at the associate degree level.

Employment opportunities for the five-year period ending in 1990-1991 should be ABOUT THE SAME or show IMPROVEMENT except for Teacher Aide, which is expected to show SOME DECLINE at the certificate level.

The tables that follow on pages 85 and 86 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following vocational programs:

Interior Design
Teacher Aide
Child Care and Guidance Management and Services, Other
Fashion/Fabric Coordination
Food Production, Management and Services, General
Dietetic Aide/Assisting

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
040501 INTERIOR DESIGN	Certificate	COMPETITIVE	315	364-559	ABOUT THE SAME	$14,000-$15,000	Buyers, Wholesale, Retail Trade Designers Drafters Extension Service Specialists Merchandise Displayers Purchasing Agents and Buyers Sales Managers, Retail Trade Store Managers
	Associate Degree	BALANCED			ABOUT THE SAME		
200205 TEACHER AIDE See Comments #3, 4	Certificate	COMPETITIVE	217	269-399	SOME DECLINE	$11,000-$13,000	Child Care Attendants Preschool/Kindergarten Teachers Teacher Aides
	Associate Degree	COMPETITIVE			ABOUT THE SAME		
200299 CHILD CARE AND GUIDANCE MANAGEMENT AND SERVICES, OTHER See Comment #2	Certificate	BALANCED	961	1,221-1,777	SOME IMPROVEMENT	$9,000-$11,000	Camp Directors Caseworkers Child Care Attendants/Workers Welfare Investigators
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
200306 FASHION/FABRIC COORDINATION See Comments #2, 5	Certificate	BALANCED	47	63-98	ABOUT THE SAME	$13,000-$14,000	Buyers, Wholesale, Retail Trade Designers Fashion Coordinators Sales Workers/Clerks
	Associate Degree	BALANCED			SOME IMPROVEMENT		
200401 FOOD PRODUCTION, MANAGEMENT, AND SERVICES, GENERAL See Comments #1, 5	Certificate	BALANCED	442	945-1,434	SOME IMPROVEMENT	$15,000-$16,000	Bakers Food Service Workers Institutional and Private Cooks Restaurant, Cafe, Bar Managers Restaurant Cooks Short Order Cooks
	Associate Degree	VERY GOOD			DEFINITE IMPROVEMENT		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
200404 DIETETIC AIDE/ASSISTING	Certificate	BALANCED	92	129-196	ABOUT THE SAME	$14,000-$15,000	Dietetic Technicians Restaurant, Cafe, Bar Managers
	Associate Degree	BALANCED			SOME IMPROVEMENT		

COMMENTS - HOME ECONOMICS

1. Food Production, Management, and Services, General, includes Chef/Cook.
2. Employment opportunity ratings by institutions ranged from EXCELLENT to COMPETITIVE or KEENLY COMPETITIVE for Child Care and Guidance Management and Services, Other; and Fashion/Fabric Coordination, at both the certificate and associate degree levels. This indicates that employment opportunities for completers of these programs vary widely throughout the state.
3. Employment opportunity ratings at the certificate level for Teacher Aide are based on reports from two institutions.
4. Some institutions report that the independent school districts in some of the larger urban areas are requiring competency upgrade or completion of associate degree level programs for teacher aides.
5. The number of related job openings indicated for the listed programs is high in comparison with the supply and employment opportunity rating because this number includes openings for occupations which are only Generally Related to the programs:

Program Title	Generally Related Occupation
Fashion/Fabric Coordination	Other Sales Workers
Food Production, Management, and Services, General	Waiters and Waitresses

OVERALL EMPLOYMENT OPPORTUNITIES FOR VOCATIONAL PROGRAM COMPLETERS IN

TECHNICAL EDUCATION

Technical Education encompasses a wide variety of programs which include Communication, Electrical, Electronics, Chemical, Industrial, Engineering, Legal, Protective Service, Aviation, and Civil Technologies.

During the period 1985-1986, employment opportunities for workers entering the job market with Certificates or Associate of Applied Science degrees in most of these fields should be BALANCED to VERY GOOD. However, the COMPETITIVE rating can be found in some programs such as Biomedical Equipment Technology; Petroleum Technology; and Library Assisting. At the certificate level, Quality Control Technology and Mechanical Design Technology reflect an EXCELLENT rating.

Employment opportunities for the five-year period ending in 1990-1991 should be ABOUT THE SAME or show IMPROVEMENT. Declines are noted at the certificate level in Electrical Technology and in Occupational Safety and Health Technology.

The tables that follow on pages 89 to 95 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following vocational programs:

Radio and Television Production and Broadcasting Technology
Communication Technologies, Other
Data Processing
Architectural Design and Construction Technology
Civil Technology
Drafting and Design Technology
Electrical Technology
Electronic Technology
Laser Electro-Optic Technology
Biomedical Equipment Technology
Electromechanical Instrumentation and Maintenance Technologies, Other
Solar Heating and Cooling Technology
Environmental Control Technologies, Other
Industrial Production Technologies, Other
Occupational Safety and Health Technology
Quality Control Technology
Mechanical Design Technology
Petroleum Technology
Engineering and Engineering-Related Technologies, Other
Legal Assisting
Library Assisting
Nuclear Technologies, Other
Chemical Technology
Oceanographic (Physical) Technology
Criminal Justice Technology
Protective Services, Other
Airplane Piloting and Navigation
Aviation Management/Air Transportation, General

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
100104 RADIO AND TELEVISION PRODUCTION AND BROADCASTING TECHNOLOGY See Comment #6	Certificate	BALANCED	58	101-152	SOME IMPROVEMENT	$11,000-$13,000	Audio Visual Specialists Broadcast and Light Technicians Motion Picture Projectionists Radio and TV Announcers Radio/TV Technical Directors Recording and Reproduction Techs TV Camera Operators
	Associate Degree	BALANCED			SOME IMPROVEMENT		
100199 COMMUNICATION TECHNOLOGIES, OTHER See Comment #4	Certificate	VERY GOOD	29	95-144	ABOUT THE SAME	$13,000-$14,000	Branch Service Advisors Electronic/Electric Mechanics Radio Operators Telephone and Directory Operators Telephone Switchboard Operators
	Associate Degree	VERY GOOD			DEFINITE IMPROVEMENT		
110301 DATA PROCESSING See Comment #6	Certificate	VERY GOOD	355	550-853	DEFINITE IMPROVEMENT	$14,000-$15,000	Computer Operators Computer Programmers Computer Systems Analysts Keypunch Operators
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
150101 ARCHITECTURAL DESIGN AND CONSTRUCTION TECHNOLOGY See Comment #7	Certificate	BALANCED	31	44-66	SOME IMPROVEMENT	$15,000-$16,000	Blue Collar Working Supervisors Bricklayers Carpenters Construction Inspectors Cost Estimators Designers Dry Wall Installers/Lathers Electricians Mixer Operators Sawyers Stone Masons
	Associate Degree	BALANCED			SOME IMPROVEMENT		
150201 CIVIL TECHNOLOGY See Comments #1, 7	Certificate	VERY GOOD	141	350-538	SOME IMPROVEMENT	$17,000-$25,000	Blue Collar Working Supervisors Civil Engineering Technicians Construction Inspectors Cost Estimators Engineering Technicians Other Science Technicians Physical Science Technicians Safety Inspectors Surveyor Helpers Surveyors Traffic Technicians
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
150202 DRAFTING AND DESIGN TECHNOLOGY See Comment #6	Certificate	BALANCED	1,845	1,820-2,718	SOME IMPROVEMENT	$14,000-$15,000	Blue Collar Working Supervisors Construction Inspectors Designers Drafters Metal Layout Markers Nonworking Supervisors Patternmakers Surveyors
	Associate Degree	BALANCED			SOME IMPROVEMENT		
150302 ELECTRICAL TECHNOLOGY See Comment #9	Certificate	BALANCED	345	538-807	SOME DECLINE	$16,000-$17,000	Cable Installers/Splicers Construction Inspectors Electrical and Electronic Techs Electrical Motor/Tool/Instrument Repairers Power Line Trouble Shooters Power Station Operators
	Associate Degree	BALANCED			ABOUT THE SAME		
150303 ELECTRONIC TECHNOLOGY See Comment #6	Certificate	BALANCED	2,563	2,765-4,226	SOME IMPROVEMENT	$16,000-$17,000	Computer Seismograph Technicians Data Processing Machine Mechanics Electrical and Electronic Techs Engineering Technicians Industrial Engineering Techs
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
150304 LASER ELECTRO-OPTIC TECHNOLOGY	Certificate	Not Available	39	46-68	Not Available	$17,000-$19,000	Electrical and Electronic Techs Engineering Technicians Instrument Repairers Lens Grinders
	Associate Degree	BALANCED			DEFINITE IMPROVEMENT		
150401 BIOMEDICAL EQUIPMENT TECHNOLOGY See Comment #4	Certificate	COMPETITIVE	See Comment #8		ABOUT THE SAME	$17,000-$19,000	Artificial Appliance Makers Electrical and Electronic Techs Medical Lab Assistants/Techs
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1988-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
150499 ELECTROMECHANICAL INSTRUMENTATION AND MAINTENANCE TECHNOLOGIES, OTHER See Comment #7	Certificate	BALANCED	84	305-462	SOME IMPROVEMENT	$19,000-$21,000	Electrical Motor/Tool/Instrument Repairers Electro-Mechanical Assemblers Electronic/Electric Mechanics Instrument Assemblers/Repairers Liquefaction-Regasification Plant Operators Office Machine Servicers Physical Science Technicians Testers
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
150505 SOLAR HEATING AND COOLING TECHNOLOGY	Certificate	BALANCED	See Comment #8		SOME IMPROVEMENT	$11,000-$13,000	Air Cond/Heating/Refrig Mechanics Engineering Technicians Technicians
	Associate Degree	BALANCED			DEFINITE IMPROVEMENT		
150599 ENVIRONMENTAL CONTROL TECHNOLOGIES, OTHER See Comment #11	Certificate	COMPETITIVE	See Comment #8		ABOUT THE SAME	$11,000-$13,000	Blue Collar Working Supervisors Engineering Technicians Industrial Engineering Techs Nonworking Supervisors Physical Science Technicians Science Technicians
	Associate Degree	COMPETITIVE			SOME IMPROVEMENT		
150699 INDUSTRIAL PRODUCTION TECHNOLOGIES, OTHER See Comments #4, 9	Certificate	BALANCED	39	249-382	ABOUT THE SAME	$14,000-$15,000	Blue Collar Working Supervisors Engineering Technicians Machine Assemblers Machine Operatives Nonworking Supervisors Other Mechanics and Repairers Production Coordinators Science Technicians
	Associate Degree	VERY GOOD			DEFINITE IMPROVEMENT		
150701 OCCUPATIONAL SAFETY AND HEALTH TECHNOLOGY See Comment #4	Certificate	COMPETITIVE	29	35-54	DEFINITE DECLINE	$19,000-$23,000	Engineering Technicians Inspectors Safety Inspectors Science Technicians
	Associate Degree	BALANCED			ABOUT THE SAME		
150702 QUALITY CONTROL TECHNOLOGY See Comment #4	Certificate	EXCELLENT	See Comment #8		SOME IMPROVEMENT	Not Available	Construction Inspectors Engineering Technicians Inspectors Production Coordinators Science Technicians Service Observers and Reps Testers
	Associate Degree	VERY GOOD			DEFINITE IMPROVEMENT		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1988)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1988-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
150805 MECHANICAL DESIGN TECHNOLOGY See Comments #4, 5	Certificate	EXCELLENT	See Comment #8		Not Available	$15,000-$16,000	Blue Collar Working Supervisors Inspectors Machinists Mechanical Engineering Techs Nonworking Supervisors Physical Science Technicians Tool Programmers
	Associate Degree	VERY GOOD			DEFINITE IMPROVEMENT		
150903 PETROLEUM TECHNOLOGY See Comments # 6, 9	Certificate	COMPETITIVE	511	596-914	SOME IMPROVEMENT	$21,000-$23,000	Blue Collar Working Supervisors Computer Seismograph Technicians Engineering Technicians Nonworking Supervisors Oil and Gas Pumpers Oil and Gas Technical Operators Petroleum Machine Operatives Refinery Dispatchers Science Technicians
	Associate Degree	BALANCED			DEFINITE IMPROVEMENT		
159999 ENGINEERING AND ENGINEERING-RELATED TECHNOLOGIES, OTHER See Comments #2, 4	Certificate	BALANCED	87	303-454	SOME IMPROVEMENT	$17,000-$19,000	Auxiliary Equipment Operators Drafters Electrical and Electronic Techs Engineeering Technicians Industrial Engineering Techs Liquefaction Plant Operators Mechanical Engineering Techs Nonworking Supervisors Pump Station Operators Stationary Engineers Steam Control Room Operators Treatment Plant Mechanics Turbine Operators
	Associate Degree	VERY GOOD			ABOUT THE SAME		
220103 LEGAL ASSISTING See Comment #6	Certificate	BALANCED	321	327-500	SOME IMPROVEMENT	$14,000-$15,000	Insurance Investigators Library Technical Assistants Paralegal Personnel Proofreaders Tax Preparers
	Associate Degree	VERY GOOD			DEFINITE IMPROVEMENT		
250301 LIBRARY ASSISTING See Comment #4	Certificate	COMPETIVE	See Comment #8		ABOUT THE SAME	Not Available	Library Assistants Library Technical Assistants
	Associate Degree	Not Available			Not Available		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1988)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1988-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
410299 NUCLEAR TECHNOLOGIES, OTHER	Certificate	Not Available	24	14-22	Not Available	$17,000-$19,000	Radiologic/Nuclear Medical Techs X-Ray Technicians
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
410301 CHEMICAL TECHNOLOGY See Comment #4	Certificate	VERY GOOD	19	68-104	DEFINITE IMPROVEMENT	$19,000-$21,000	Blue Collar Working Supervisors Chemical Machine Operatives Engineering Technicians Inspectors Science Technicians
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
410305 OCEANOGRAPHIC (PHYSICAL) TECHNOLOGY See Comments #4, 5	Certificate	VERY GOOD	86	54-84	ABOUT THE SAME	$17,000-$19,000	Engineering Technicians Sailors and Deckhands Science Technicians Ship Captians/Pilots
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
430105 CRIMINAL JUSTICE TECHNOLOGY See Comments #6, 10	Certificate	BALANCED	2,831	2,375-3,585	SOME IMPROVEMENT	$15,000-$16,000	Bailiffs Correction Officers and Jailers Dispatchers Ambulance/Police/Fire Inspectors Parking Enforcement Officers Police Officers/Detectives Police Patrolpersons Railroad Police Sheriffs and Sheriff's Officers Store Detectives
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
439999 PROTECTIVE SERVICES, OTHER See Comment #6	Certificate	BALANCED	See Comment #8		SOME IMPROVEMENT	$13,000-$14,000	Bailiffs Correction Officers and Jailers Dispatchers Ambulance/Police/Fire Inspectors/Safety Sheriffs and Sheriff's Officers Store Detectives
	Associate Degree	BALANCED			ABOUT THE SAME		
490102 AIRPLANE PILOTING AND NAVIGATION See Comment #6	Certificate	BALANCED	108	168-257	ABOUT THE SAME	$16,000-$19,000	Airplane Pilots Air Traffic Controllers
	Associate Degree	BALANCED			SOME IMPROVEMENT		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1988)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1988-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
490104 AVIATION MANAGEMENT 490101 AIR TRANSPORTATION, GENERAL See Comments #3, 4, 6, 12	Certificate	VERY GOOD	See Comment #8		SOME IMPROVEMENT	$17,000-$21,000	Aircraft Mechanics Aircraft Structure Assemblers Airplane Pilots Air Traffic Controllers Crew Schedulers and Dispatchers Electrical and Electronic Techs Other Managers Reservation Agents Station Agents Ticket Agents Transportation Agents
	Associate Degree	BALANCED			SOME IMPROVEMENT		

COMMENTS - TECHNICAL EDUCATION

1. Civil Technology includes Surveying and Mapping Technology.
2. Engineering and Engineering-Related Technologies, Other includes Water and Wastewater Technology.
3. Aviation Management/Air Transportation, General includes Aeronautical Technology and Air Traffic Control.
4. Employment opportunity ratings at the certificate level for Communications Technologies, Other; Biomedical Equipment Technology; Industrial Production Technologies, Other; Occupational Safety and Health Technology; Mechanical Design Technology; Library Assisting; and Oceanographic (Physical) Technology, are based on a report from one institution; ratings for Quality Control Technology; Engineering and Engineering-Related Technologies, Other; Chemical Technology; and Aviation Management, are based on reports from two institutions.
5. The employment opportunity rating at the associate degree level for Mechanical Design Technology is based on a report from one institution; ratings for Oceanographic (Physical) Technology are based on reports from two institutions.
6. Employment opportunity ratings by institutions ranged from EXCELLENT to COMPETITIVE or KEENLY COMPETITIVE for Radio and Television Production and Broadcasting Technology; Data Processing; Electronic Technology; Criminal Justice Technology; and Protective Services, Other, at the certificate level; ratings ranged from EXCELLENT to COMPETITIVE or KEENLY COMPETITIVE for Drafting and Design Technology; Electronic Technology; Petroleum Technology; Radio and Television Production and Broadcasting Technology; Data Processing; Legal Assisting; Criminal Justice Technology; Airplane Piloting and Navigation; and Aviation Management, at the associate degree level. This indicates that employment opportunities for completers of these programs vary widely throughout the state.
7. Because of economic reasons and time limitations, many students in the civil technology and architectural design and construction fields take just enough courses to qualify for a specific entry level job or career upgrade and are not recorded as "completing" a certificate or associate degree level program. Nevertheless, they enter the labor market and compete for jobs. Consequently, the market ready supply for these programs is probably understated.
8. Market ready supply for Biomedical Equipment Technology; Solar Heating and Cooling Technology; Environmental Control Technologies, Other; Quality Control Technology; Mechanical Design Technology; Library Assisting; Protective Services, Other; and Aviation Management/Air Transportation, General, is expected to total less than 15; statistical supply-demand comparisons cannot be determined.

COMMENTS - TECHNICAL EDUCATION

9. The number of related job openings indicated for the listed programs is high in comparison with the supply and employment opportunity rating because this number includes openings for occupations which are only Generally Related to the programs:

Program Title	Generally Related Occupation
Industrial Production Technologies	Machine Instructors
Petroleum Technology	Assemblers
Electrical Technology	Office Machine and Cash Register Servicers

10. Criminal Justice Technology. The following remark from one institution's survey response is quoted, "Most police agencies are like the U.S. Marines, they are always looking for a few good men."

11. Salary information for Environmental Control Technology, Other is based on data from one institution.

12. Average salary for the associate level of Air Transportation, General can be as low as $13,000.

OVERALL EMPLOYMENT OPPORTUNITIES FOR VOCATIONAL PROGRAM COMPLETERS IN

TRADE AND INDUSTRIAL

The Trade and Industrial group of vocational programs includes training for several diverse occupational areas which include personal services; construction trades; electric and electronics equipment operation and repair; vehicle and heavy equipment operation and repair; small appliance and engine repair; drafting; graphics; printing; photography; machine shop; and welding.

During the period 1985-86, employment opportunities for workers entering the job market with Certificates or Associate of Applied Science degrees in most of these fields should be BALANCED to VERY GOOD. The only two exceptions to this general rating are Heavy Equipment Maintenance and Repair, which is rated EXCELLENT at the associate degree level, and Aircraft Mechanics, rated COMPETITIVE at the certificate level.

Employment opportunities for the five-year period ending in 1990-1991 should be ABOUT THE SAME or show IMPROVEMENT.

The tables that follow on pages 97 to 104 provide more specific information on employment opportunities, beginning salaries, and related occupations for the following vocational programs:

Barbering/Cosmetology
Firefighting
Building Maintenance
Plumbing
Construction Trades, Other
Electrical and Electronics Equipment Repair, General
Industrial Electronics
Small Appliance Repair
Heating and Air Conditioning
Heavy Equipment Maintenance and Repair
Musical Instrument Repair
Watch/Jewelry Design, Fabrication, and Repair
Aircraft Mechanics
Automotive Body Repair
Automotive Mechanics
Diesel Engine Mechanics
Small Engine Repair
Drafting, General/Architectural Drafting
Graphic and Printing Communications, General
Commerical Art
Commerical Photography
Upholstering
Machine Tool Operation/Machine Shop
Sheet Metal
Welding, Brazing and Soldering
Vehicle and Equipment Operation, General

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1989)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1989-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1994 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
120402 BARBERING 120403 COSMETOLOGY See Comments #6, 11	Certificate	BALANCED	3,833	2,814-4,095	SOME IMPROVEMENT	$9,000-$13,000	Barbers Cosmetologists and Hairstylists Manicurists Receptionists Sales Managers, Retail Trade Scalp Treatment Operators Shampooers Store Managers
	Associate Degree	BALANCED			ABOUT THE SAME		
430203 FIREFIGHTING See Comments #6, 9, 10	Certificate	BALANCED	See Comment #9		SOME IMPROVEMENT	$17,000-$19,000	Claim Examiners/Adjusters Construction Inspectors Dispatchers Ambulance/Police/Fire Fire Fighters Fire Inspectors Fire Insurance Bldg. Inspectors Fire Officers Insurance Checkers/Investigators
	Associate Degree	BALANCED			SOME IMPROVEMENT		
460401 BUILDING MAINTENANCE See Comment #6	Certificate	BALANCED	174	406-605	SOME IMPROVEMENT	$13,000-$16,000	Blue Collar Working Supervisors Maintenance Repairers, Utility Nonworking Supervisors
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
460503 PLUMBING See Comment #5	Certificate	VERY GOOD	273	264-393	SOME IMPROVEMENT	$15,000-$19,000	Instrument and Pipelaying Fitters Maintenance Mechanics Plumbers and Pipefitters
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
469999 CONSTRUCTION TRADES, OTHER See Comments #1, 6, 8, 12	Certificate	BALANCED	482	1,479-2,204	SOME IMPROVEMENT	$19,000-$21,000	Asbestos and Insulation Workers Bricklayers Cabinetmakers, Carpenters Cement/Stone Masons Construction Inspectors Cost Estimators Crane, Derrick, Hoist Operators Dry Wall Installers & Lathers Electricians Glaziers Heavy Equipment Operators Metal Fabricators and Fitters Mixer Operators Painters, Maintenance Paperhangers Plasters Roofers, Sawyers Structural Steel Workers Tile Setters, Floor Layers
	Associate Degree	BALANCED			SOME IMPROVEMENT		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
470101 ELECTRICAL AND ELECTRONICS EQUIPMENT REPAIR, GENERAL See Comments #2, 6	Certificate	VERY GOOD	718	1,058-1,581	SOME IMPROVEMENT	$16,000-$21,000	Blue Collar Working Supervisors Cable Installers/Splicers Central Telephone Repairers Data Proc. Machine Mechanics Electrical and Electronic Techs Electricians Electric Motor, Tool Repairers Electronic/Electric Mechanics Engineering Technicians Household Appliance Repairers Line Installers/Repairers Nonworking Supervisors Power Line Trouble Shooters Protective Signal Repairers Radio and TV Repairers Radio Operators Science Technicians Station Installers Telephone Installers/Repairers Test Desk Trouble Locators
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
470105 INDUSTRIAL ELECTRONICS See Comment #6	Certificate	VERY GOOD	23	83-124	DEFINITE IMPROVEMENT	$16,000-$17,000	Cable Installers/Splicers Central Telephone Repairers Electrical and Electronic Techs Electricians Engineering Technicians Line Installers/Repairers Office Machine Servicers Science Technicians Station Installers
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
470108 SMALL APPLIANCE REPAIR See Comment #9	Certificate	BALANCED	See Comment #9		ABOUT THE SAME	$9,000-$14,000	Coin Machine Servicers/Repairers Gas/Electric Appliance Repairers Household Appliance Repairers Sewing Machine Mechanics
	Associate Degree	Not Available			Not Available		
470203 HEATING AND AIR CONDITIONING See Comment #6	Certificate	VERY GOOD	1,880	1,716-2,558	SOME IMPROVEMENT	$14,000-$16,000	Air Cond/Heating/Refrig Mechs Electricians Pipelaying Fitters Sheet Metal Workers
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1988)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1988-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
470302 HEAVY EQUIPMENT MAINTENANCE AND REPAIR See Comments #3, 5, 6, 13	Certificate	VERY GOOD	244	399-595	DEFINITE IMPROVEMENT	$19,000-$21,000	Auto Mechanics Auxiliary Equipment Operators Diesel Mechanics Engineering Equipment Mechanics Farm Equipment Mechanics Heavy Equipment Operators Hydroelectric Machine Mechanics Liquefaction Plant Operators Maintenance Mechanics Marine Mechanics and Repairers Mechanical Engineering Techs Mobile Home Repairers Mobile Home Set-Up Operators Other Mechanics and Repairers Plumbers and Pipefitters Ship Fitters Stationary Engineers Steam Control Room Operators Treatment Plant Mechanics Turbine Operators
	Associate Degree	EXCELLENT			DEFINITE IMPROVEMENT		
470404 MUSICAL INSTRUMENT REPAIR See Comments #4, 11	Certificate	VERY GOOD	144	154-230	ABOUT THE SAME	$11,000-$13,000	Electrical Instrument Repairers Furniture Finishers Musical Instrument Repairers Musicians, Instrumental
	Associate Degree	Not Available			Not Available		
470408 WATCH REPAIR 480602 JEWELRY DESIGN, FABRICATION, AND REPAIR See Comments #5, 11	Certificate	VERY GOOD	191	188-281	SOME IMPROVEMENT	$11,000-$14,000	Designers Jewelers and Silversmiths Technicians Watchmakers
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
470602 AIRCRAFT MECHANICS See Comments #4, 6	Certificate	COMPETITIVE	805	554-855	DEFINITE IMPROVEMENT	$15,000-$16,000	Aircraft Mechanics Aircraft Painters Aircraft Structure Assemblers
	Associate Degree	BALANCED			DEFINITE IMPROVEMENT		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
470603 AUTOMOTIVE BODY REPAIR See Comments #6, 8	Certificate	BALANCED	444	1,038-1,611	SOME IMPROVEMENT	$14,000-$17,000	Auto Body Repairers Auto Mechanics Automotive Painters Auto Repair Service Estimators Auto Seat Cover/Top Installers Garage Workers Managers, Auto Service/Parts Mobile Home Repairers Mobile Home Set-Up Operators Painters, Production and Rubbers Vehicle Glass Installers Welders and Flamecutters
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
470604 AUTOMOTIVE MECHANICS See Comments #6, 8	Certificate	BALANCED	2,310	3,173-4,925	SOME IMPROVEMENT	$15,000-$16,000	Auto Body Repairers Auto Mechanics Auto Repair Service Estimators Diesel Mechanics Engineering Equipment Mechanics Farm Equipment Mechanics Gasoline Engine/Motor Repairers Maintenance Mechanics Sales Managers, Retail Trade Store Managers
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
470605 DIESEL ENGINE MECHANICS See Comment #6	Certificate	BALANCED	1,031	932-1,390	SOME IMPROVEMENT	$14,000-$16,000	Auto Mechanics Diesel Mechanics Engineering Equipment Mechanics Farm Equipment Mechanics Hydroelectric Machine Mechanics Maintenance Mechanics
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
470606 SMALL ENGINE REPAIR See Comment #11	Certificate	VERY GOOD	148	143-213	SOME IMPROVEMENT	$11,000-$13,000	Gasoline Engine/Motor Repairers Other Mechanics and Repairers
	Associate Degree	Not Available			Not Available		
480101 DRAFTING, GENERAL 480102 ARCHITECTURAL DRAFTING See Comment #6	Certificate	BALANCED	425	279-430	SOME IMPROVEMENT	$15,000-$16,000	Designers Drafters Engineering Technicians Metal Layout Markers Patternmakers Surveyors
	Associate Degree	BALANCED			SOME IMPROVEMENT		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1990-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
480201 GRAPHIC AND PRINTING COMMUNICATIONS, GENERAL See Comment #6	Certificate	VERY GOOD	655	605-924	SOME IMPROVEMENT	$14,000-15,000	Bookbinders, Bindery Workers Compositors and Typesetters Engravers/Photoengravers Letter Press Operators Letterset Press Operators Offset Lithographic Press Opers Platemakers Press Operators/Plate Printers Printing Services Estimators Printing Strippers Store Managers
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		
480203 COMMERCIAL ART See Comments #4, 6	Certificate	BALANCED	206	269-412	SOME IMPROVEMENT	$15,000-$16,000	Commercial and Artistic Painters Compositors and Typesetters Designers Merchandise Displayers
	Associate Degree	BALANCED			SOME IMPROVEMENT		
480204 COMMERCIAL PHOTOGRAPHY See Comment #6	Certificate	VERY GOOD	268	362-556	SOME IMPROVEMENT	$14,000-$15,000	Photographers Photographic Process Workers Printing Camera Operators
	Associate Degree	BALANCED			SOME IMPROVEMENT		
480303 UPHOLSTERING See Comment #4	Certificate	BALANCED	129	147-223	SOME IMPROVEMENT	$13,000-$14,000	Cushion Makers Furniture Upholsterers Mattress Makers Semiskilled Textile Operatives Upholsterers
	Associate Degree	BALANCED			SOME IMPROVEMENT		
480503 MACHINE TOOL OPERATION/ MACHINE SHOP See Comments #6, 7	Certificate	BALANCED	1,196	1,434-2,191	SOME IMPROVEMENT	$13,000-$16,000	Bending Machine Operators Drill Press Operatives Forge and Hammer Operators Grinding Machine Operators Lathe Machine Operators Machine Tool Operators/Setters Machinists, Machine Operatives Metal Layout Markers Milling/Planing Machine Operators Molding Machine Setters Punch Press Operators/Setters Shear and Slitter Setters Tool and Die Makers/Setters
	Associate Degree	BALANCED			SOME IMPROVEMENT		

TEXAS VOCATIONAL EDUCATION PROGRAMS (STATEWIDE)

PROGRAM AREA CODE AND TITLE	DEGREE LEVEL	SHORT-TERM SUPPLY-DEMAND (1986)			EXPECTED EMPLOYMENT OPPORTUNITY CONDITIONS (1986-1991)	AVERAGE ANNUAL SALARY RANGE FOR 1984 GRADUATES	DIRECTLY OR CLOSELY RELATED OCCUPATIONS
		EMPLOYMENT OPPORTUNITY	MARKET SUPPLY	RELATED JOB OPENINGS			
480506 SHEET METAL See Comment #6	Certificate	BALANCED	130	134-203	ABOUT THE SAME	$14,000-$16,000	Air Cond/Heating/Refrig Mechs Cutting Machine Operatives Dip Platers Electroplaters Metal Fabricators and Fitters Punch Press Setters Roofers Shear and Slitter Setters Sheet Metal Workers
	Associate Degree	BALANCED			ABOUT THE SAME		
480508 WELDING, BRAZING AND SOLDERING See Comment #6	Certificate	BALANCED	5,325	5,512-8,509	SOME IMPROVEMENT	$16,000-$19,000	Cutting Machine Operatives Sheet Metal Workers Welders and Flamecutters
	Associate Degree	BALANCED			SOME IMPROVEMENT		
490201 VEHICLE AND EQUIPMENT OPERATION, GENERAL See Comments #7, 14	Certificate	VERY GOOD	560	1,129-1,743	DEFINITE IMPROVEMENT	$21,000-23,000	Bus/Truck Drivers Crane, Derrick, & Hoist Operators Delivery and Route Workers Driving Instructors Heavy Equipment Operators Logging Tractor Operators
	Associate Degree	VERY GOOD			SOME IMPROVEMENT		

COMMENTS - TRADE AND INDUSTRIAL

1. Construction Trades, Other includes Brick, Block and Stonemasonry; Carpentry; and Miscellaneous Construction Trades, Other.
2. Electrical and Electronics Equipment Repair, General includes Electrical and Power Transmission Installation, General; Electrician; and Communication Electronics.
3. Heavy Equipment Maintenance and Repair includes Stationary Energy Sources, Other; Vehicle and Mobile Equipment Mechanics and Repairers, Other; and Marine Maintenance.
4. Employment opportunity ratings at the certificate level for Musical Instrument Repair and Aircraft Mechanics are based on reports from one institution; ratings for Upholstering and Commercial Art, are based on reports from two institutions.
5. Employment opportunity ratings at the associate degree level for Heavy Equipment Maintenance and Repair are based on a report from one institution; ratings for Plumbing; Watch Repair; and Jewelry Design, Fabrication and Repair, are based on reports from two institutions.

6. Employment opportunity ratings by institutions ranged from EXCELLENT to COMPETITIVE or KEENLY COMPETITIVE as tabulated below:

Program	Degree Level
Barbering	Certificate
Cosmetology	Both
Automotive Body Repair	Associate
Diesel Engine Mechanics	Both
Firefighting	Both
Building Maintenance	Both
Heating and Air Conditioning	Both
Commercial Art	Associate
Commercial Photography	Both
Heavy Equipment Maintenance and Repair	Certificate
Graphic and Printing Communications, General	Both
Electrical and Electronics Equipment Repair	Certificate
Machine Tool Operation/Machine Shop	Certificate
Welding, Brazing and Soldering	Both
Construction Trades, Other	Both
Industrial Electronics	Both
Aircraft Mechanics	Associate
Automotive Mechanics	Both
Drafting, General	Both
Architectural Drafting	Both
Sheet Metal	Certificate

This indicates that employment opportunities for completers of these programs vary widely throughout the state.

7. Because of economic reasons and time limitations many students in the machine shop, and vehicle and equipment operation fields take just enough courses to qualify for a specific entry level job or career upgrade and are not recorded as "completing" a certificate or associate degree level program. Nevertheless, they enter the labor market and compete for jobs. Consequently, the market ready supply for this program is probably understated.

8. The number of related job openings indicated for the listed programs is high in comparison with the supply and employment opportunity rating because this number includes openings for occupations which are only Generally Related to the programs:

Program Title	Generally Related Occupation
Construction Trades, Other	Other Crafts and Kindred Workers
Automotive Body Repair	Insurance Checkers
Automotive Mechanics	Garage Workers and Gas Station Attendants, Other Managers

9. Market ready supply for Firefighting and Small Appliance Repair is expected to total less than 15; statistical supply-demand comparisons cannot be determined.

10. Fire fighters are usually employed before enrolling in a fire protection curriculum. Education is sought for advancement not employment.

COMMENTS - TRADE AND INDUSTRIAL

11. Salary information for Barbering/Cosmetology; Musical Instrument Repair; Watch Repair/Jewelry Design, Fabrication and Repair; and Small Engine Repair is based on data about the certificate level programs only.

12. Salary for the certificate level of Construction Trades, Other can be as low as $13,000.

13. Salary for the certificate level of Heavy Equipment Maintenance and Repair can be as low as $16,000.

14. Salary for the certificate level of Vehicle and Equipment Operation, General can be as low as $17,000.

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Accountants and Auditors	Accounting Finance	Accounting and Computing
Accounting Clerks		Accounting and Computing
Actors and Actresses	Dramatic Arts	
Actuaries	Accounting Economics Finance Mathematics	
Actuarial Clerks	Mathematics	Business Data Programming Typing, General Office, and Related Programs
Admission Evaluators	Education Admin/Supervision Education, Other	
Agricultural Scientists	Agriculture Business & Mgt, Gen. Agronomy Animal Sciences, Other Biology Chemistry Forestry & Related Sciences Horticulture Science Veterinary Medicine Zoology	
Air Conditioning/ Heating/Refrig Mechanics		Heating and Air Conditioning Sheet Metal Solar Heating/Cooling Tech
Aircraft Mechanics		Aircraft Mechanics Air Transportation, Gen. Aviation Management
Aircraft Structure Assemblers		Aircraft Mechanics Air Transportation, Gen. Aviation Management
Air Crew Schedulers/ Dispatchers	Business Management	Aviation Management
Airplane Pilots	Aero-Space Engineering Engineering, Other Technology	Airplane Piloting/Navigation Air Transportation, Gen. Aviation Management

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Air Traffic Controllers	Mathematics	Airplane Piloting/Navigation Air Transportation, Gen. Aviation Management
Ambulance Attendants and Drivers		EMT - Paramedic
Animal Caretakers	Animal Sciences, General Animal Sciences, Other Range Management Veterinary Medicine Zoology	Animal Production
Announcers, Radio and Television	Journalism (Mass Communications) Radio/Television, General Speech, Debate and Forensics	Radio/TV Production and Broadcasting Technology
Appraisers	Accounting Business and Mgmt, General Marketing	Business Administration and Management, General
Appraisers, Real Estate	Agricultural Business Agricultural Business & Mgt, Gen. Architecture Business & Mgmt, General Finance Petroleum Land Management	Real Estate, General
Architects	Architecture	
Archivists and Curators	Anthropology History Library Science Social Sciences, Other Visual Arts	
Artificial Appliance Makers		Biomedical Equipment Tech Physical Therapy Assisting
Asbestos and Insulation Workers		Construction Trades, Other
Assessors	Finance Public Affairs, General	Accounting and Computing
Athletes	Health and Physical Education	Recreational Therapy Technology

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Athletic Trainers/ Instructors	Health and Physical Education Parks and Recreation, General Physical Therapy	Recreational Therapy Technology
Atmospheric Scientists	Astronomy Life Sciences, Other	
Auctioneers	Marketing	Agricultural Business & Mgt, Gen. General Marketing, Other
Audio Visual Specialists	Journalism (Mass Communications) Radio/Television, General	Radio/TV Production and Broadcasting Technology
Auto Body Repairers		Automotive Body Repair Automotive Mechanics
Auto Driving Instructors	Technology Vocational Education	
Auto Mechanics		Automotive Body Repair Automotive Mechanics Diesel Engine Mechanics Heavy Equipment Maintenance and Repair
Auto Repair Service Estimators		Automotive Body Repair Automotive Mechanics
Auto Seat Cover/Top Installers		Automotive Body Repair Automotive Vehicles and Accessories Marketing
Auxiliary Equipment Operators		Engineering and Engineering Related Tech, Other Heavy Equipment Maintenance and Repair

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Bailiffs	Criminal Justice Studies	Criminal Justice Tech Protective Services, Other
Bakers		Food Production, Mgmt, and Services, General Restaurant Management
Bank Tellers	Finance	Banking Marketing
Barbers		Barbering Cosmetology
Bending Machine Operators		Machine Tool Operation/Machine Shop
Bill and Account Collectors		Credit Marketing
Biochemistry/ Microbiology Technologists	Biochemistry/Biophysics Biology Medical Technology	
Biological and Agricultural Science Technicians	Agricultural Business & Mgt, Gen. Animal Sciences, Other	Agricultural Products & Processing, Gen. Animal Production
Biological Scientists	Biochemistry/Biophysics Biology Range Management Zoology	
Blood Bank Technologists	Medical Technology Nursing, General	Medical Laboratory Technology
Blue Collar Working Supervisors	Technology	This occupation is applicable to numerous programs where blue collar supervisory skills are acquired.
Bookbinders, Bindery Workers	Journalism (Mass Communications)	Graphic and Printing Communications, General
Bookkeepers		Accounting and Computing Business Administration and Management, General General Office Clerk Secretarial & Related Programs, Gen.

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Bookkeeping and Billing Machine Operators		Accounting and Computing Banking Marketing Credit Marketing General Office Clerk
Branch Service Advisors		Communication Technologies, Other
Bricklayers		Architectural Design and Construction Technology Construction Trades, Other
Broadcast and Light Technicians	Dramatic Arts Radio/Television, General	Radio/TV Production and Broadcasting Technology
Broadcast News Analysts	Journalism (Mass Communications) Political Science and Government Radio/Television, General	
Building Inspectors, Fire Insurance	Criminal Justice Studies Finance	Firefighting Insurance Marketing, General
Business Brokers, Real Estate	Business & Mgmt, General Marketing Petroleum Land Management	Real Estate, General
Butchers and Meat Cutters		Agricultural Products and Processing, General Food Marketing, General
Buyers, Wholesale, Retail Trade	Agricultural Business Agricultural Business & Mgt, Gen. Agronomy Business and Mgmt., Gen. Finance Forestry & Related Sciences Horticulture Science Marketing Range Management Textiles and Clothing Veterinary Medicine	Agricultural Business & Mgt, Gen. Agricultural Products & Processing, Gen. Agricultural Services & Supplies, Gen. Farm and Ranch Management Fashion/Fabric Coordination Fashion Merchandising Food Marketing, General General Marketing, Other Interior Design Marketing Management

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Cabinet Makers		Construction Trades, Other
Cable Installers/ Splicers		Electrical and Electronics Equipment Repair, General Electrical Technology Industrial Electronics
Camera Operators, Printing	Journalism (Mass Communications)	Commercial Photography
Camp Directors	Animal Sciences, Other Health and Physical Education Parks and Recreation Religion Sociology Student Counseling & Personnel Services	Child Care and Guidance Mgmt and Serv, Other Recreational Therapy Technology
Carpenters		Architectural Design and Construction Technology Construction Trades, Other
Caseworkers	Anthropology Bilingual Education Criminal Justice Studies Family Relations Home Economics, General Psychology Religion Social Work Sociology Student Counseling & Personnel Services	Child Care and Guidance Mgmt and Serv, Other Mental Health/Human Services Technology
Cashiers		Food Marketing, General
Cement/Stone Masons		Construction Trades, Other
Central Telephone Repairers and Wirers		Electrical and Electronics Equipment Repair, Gen. Industrial Electronics
Chauffeurs		Transportation and Travel Marketing, General
Chemists	Biochemistry/Biophysics Chemistry	

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Chief Executives/ Administrators	Criminal Justice Studies Economics Education Admin/Supervision Medical Records Admin. Political Science and Government Public Affairs, General Speech, Debate and Forensics	Agricultural Business & Mgmt, General Business Administration and Management, General Marketing Management Real Estate, General
Child Care Attendants/ Workers	Bilingual Education Elementary Education Family Relations Psychology Social Work Sociology	Child Care and Guidance Mgmt and Serv, Other Teacher Aide
Chiropractors	Chiropractic	
Civil Engineering Technicians	Architecture Civil Engineering Geology	Civil Technology
Claims Adjusters	Accounting Economics Finance	Firefighting Insurance Marketing, General
Claim Agents	Finance	Insurance Marketing, General
Claim Clerks		General Office Clerk Insurance Marketing, General
Claims Examiners	Accounting Criminal Justice Studies Finance	Firefighting Insurance Marketing, General
Clergy	Religion	
Clerical Supervisors	Sec. and Related Programs, Gen. This program is also applicable to numerous other programs where clerical and supervisory skills are acquired.	Business Administration and Management, General General Office Clerk Marketing Management Sec. and Related Programs, Gen.
Coffee, Pantry & Sandwich Makers		Restaurant Management
Coin Machine Servicers/Repairers		Small Appliance Repair

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Commodities & Portfolio Mgrs	Business Management Economics Finance Marketing	Banking Marketing
Community Organization Workers	Bilingual Education Family Relations Political Science and Government Public Affairs, General Sociology Spanish	
Compositors and Typesetters		Commercial Art Graphic and Printing Communications, General
Computer Operators	Business Data Processing Computer Science Computer Engineering	Business Computer and Console Operation Business Data Programming Data Processing Word Processing
Computer Programmers	Business Data Processing Computer Science Computer Engineering Electrical Engineering Mathematics	Business Data Programming Data Processing
Computer Seismograph Technicians	Computer Science Geology	Electronic Technology Petroleum Technology
Computer Systems Analysts	Business Data Processing Computer Science Computer Engineering Electrical Engineering Mathematics	Business Data Programming Data Processing
Construction Inspectors	Architecture Civil Engineering	Architectural Design and Construction Technology Civil Technology Construction Trades, Other Drafting and Design Technology Electrical Technology Firefighting Quality Control Technology

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Contract Administrators	Agricultural Business Business & Mgmt, General Business Management Health Care Administration Hotel/Motel/Restaurant Mgmt. Medical Records Admin. Political Science and Government Public Affairs, General	Business Administration and Management, General Banking Marketing
Contribution Solicitors	Advertising Finance	
Control Room Operators, Steam		Engineering and Engineering Related Tech, Other Heavy Equipment Maintenance and Repair
Cooks, Institutional & Private		Food Production, Mgmt, and Services, General
Cooks, Restaurant		Food Production, Mgmt, and Services, General Restaurant Management
Cooks, Short Order		Food Production, Mgmt, and Services, General
Core Analysts and Scouts	Geology Petroleum Engineering	
Correction Officers and Jailers	Criminal Justice Studies Psychology Social Work	Criminal Justice Technology Protective Services, Other
Correspondents and Reporters	English Journalism (Mass Communications) Political Science and Government Radio/Television, General	
Cosmetologists and Hairstylists		Barbering Cosmetology
Cost Estimators	Architecture Business and Management, Gen.	Architectural Design and Construction Technology Civil Technology Construction Trades, Other

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Counter Clerks		General Marketing, Other Mail & Order Clerk Transportation and Travel Marketing, General
Court Clerks	Criminal Justice Studies	Court Reporting
Crane, Derrick, and Hoist Operators		Construction Trades, Other Vehicle and Equipment Operation, General
Crating and Moving Estimators		Marketing Management Transportation and Travel Marketing, General
Credit Analysts/ Authorizers	Accounting Agricultural Business Business and Management, Gen. Business Management Economics Finance	Business Administration and Management, General Credit Marketing Real Estate, General
Credit Reporters		Business Administration and Management, General Credit Marketing Real Estate, General
Cushion Makers		Upholstering
Customer Service Representatives	Family Relations Home Economics, General Marketing	Marketing Management
Cutting Machine Operatives		Sheet Metal Welding, Brazing and Soldering
Cytotechnologists and Histologic Technicians	Medical Technology	

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Dance Instructors	Dramatic Arts Health and Physical Education	
Dancers	Dramatic Arts	
Data Processing Machine Mechanics		Electrical and Electronics Equipment Repair, General Electronic Technology
Delivery and Route Workers		Transportation and Travel Marketing, General Vehicle and Equipment Operation, General
Demonstrators	Family Relations Home Economics, General	
Dental Assistants	Health Sciences, Other	Dental Assisting Dental Laboratory Technology
Dental Hygienists	Health Sciences, Other	Dental Hygiene Dental Laboratory Technology
Dental Laboratory Technicians	Health Sciences, Other Medical Technology	Dental Assisting Dental Hygiene Dental Laboratory Technology
Dentists	Dentistry, General	
Designers	Architecture Dramatic Arts Engineering, Other Home Decorating Home Economics, General Industrial Engineering Textiles and Clothing Visual Arts	Architectural Design and Construction Technology Commercial Art Drafting and Design Technology Drafting, General/Architectural Drafting Fashion/Fabric Coordination Interior Design Jewelry Design, Fabrication and Repair Watch Repair
Desk Clerks		Hotel/Motel Management
Diesel Mechanics		Agricultural Mechanics, General Automotive Mechanics Diesel Engine Mechanics Heavy Equipment Maintenance and Repair
Die Setters		Machine Tool Operation/Machine Shop

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Dietetic Technicians	Food Sciences and Human Nutrition Medical Technology	Dietetic Aide/Assisting
Dietitians	Food Sciences and Human Nutrition	
Dip Platers		Sheet Metal
Directors, Religious Activity	Education, Other Religion Social Work Sociology Spanish	
Dispatchers, Ambulance/Fire/Police		Criminal Justice Technology Firefighting Protective Services, Other
Dispatchers, Crew Schedulers		Air Transportation, General Aviation Management
Dispatchers, Refinery	Petroleum Engineering	Petroleum Technology
Dispatchers, Vehicle		Transportation and Travel Marketing, General
Drafters	Architecture Technology	Drafting, General/Architectural Drafting Drafting and Design Technology Engineering and Engineering Related Tech, Other Interior Design
Dressmakers	Textiles and Clothing	
Drill Press Operatives		Machine Tool Operation/Machine Shop
Drivers, Bus/Truck		Vehicle and Equipment Operation, General
Drivers, Bus/Truck/Taxi		Transportation and Travel Marketing, General
Dry Wall Installers/Lathers		Architectural Design and Construction Technology Construction Trades, Other

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Economists	Agricultural Business Business & Mgmt, General Economics Finance	
Editors and Writers	English History Journalism (Mass Communications)	
EKG/EEG Technicians	Medical Technology	Allied Health, Other Respiratory Therapy Technology
Electrical/Electronic Technicians	Computer and Info Sciences Computer Engineering Electrical Engineering Life Sciences, Other Physics Technology	Air Transportation, General Aviation Management Biomedical Equipment Tech Electrical Technology Electrical and Electronics Equipment Repair, General Electronic Technology Engineering and Engineering Related Tech, Other Industrial Electronics Laser Electro-Optic Technology
Electricians		Architectural Design and Construction Technology Construction Trades, Other Electrical and Electronics Equipment Repair, General Heating and Air Conditioning Industrial Electronics
Electrical Instrument Repairers	Electrical Engineering	Electrical Technology Electromechanical Instrumentation/Maint Tech, Other Musical Instrument Repair
Electric Motor, Tool Repairers		Electrical Technology Electrical and Electronics Equipment Repair, General Electromechanical Instrumentation/Maint Tech, Other
Electro-Mechanical Assemblers		Electromechanical Instrumentation/Maint Tech, Other

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Electronic/Electric Mechanics		Communication Technologies, Other Electrical and Electronics Equipment Repair, General Electromechanical Instrumentation/Maint Tech, Other
Electroplaters		Sheet Metal
Emergency Medical Technicians	Health Professions, Other	EMT - Paramedic
Employment Interviewers	Business & Mgmt, General Business Management Education Admin/Supervision Education, Other Foreign Languages, Multi-Emphasis Political Science & Government Psychology Public Affairs Sociology Spanish Speech, Debate and Forensics Student Guidance and Personnel Services	Business and Office, Other Marketing Management
Engineering Equipment Mechanics		Agricultural Mechanics, General Automotive Mechanics Diesel Engine Mechanics Heavy Equipment Maintenance and Repair
Engineering Technicians, Other	Geography Mathematics Physics Technology	This occupation is applicable to numerous programs where engineering skills are acquired.
Engineers, Aero-Astronautic	Aero-Space Engineering	
Engineers, Chemical	Chemical Engineering	
Engineers, Civil	Civil Engineering	
Engineers, Electrical	Computer Engineering Electrical Engineering	
Engineers, Industrial	Industrial Engineering Mechanical Engineering	

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Engineers, Mechanical	Civil Engineering Mechanical Engineering	
Engineers, Metallurgical	Engineering, Other	
Engineers, Mining	Civil Engineering Petroleum Engineering	
Engineers, Other	Civil Engineering Computer and Info Science Computer Engineering Engineering, Other Industrial Engineering Journalism (Mass Communications) Physics	
Engineers, Petroleum	Chemical Engineering Geology Petroleum Engineering	
Engravers, except Photoengravers	Visual Arts	Graphic and Printing Communications, General
Estimators, Printing Services	Advertising Journalism (Mass Communications)	Graphic and Printing Communications, General
Extension Service Specialists	Agronomy Animal Sciences, General Family Relations Home Economics, General	Interior Design

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Fabricators and Fitters, Metal		Construction Trades, Other Sheet Metal
Farm Equipment Mechanics		Agricultural Mechanics, General Automotive Mechanics Diesel Engine Mechanics Heavy Equipment Maintenance and Repair
Farmers (Owners and Tenants)	Agricultural Business Agricultural Business & Mgmt, Gen. Agronomy Animal Sciences, General Forestry and Related Sciences Horticulture Science	Agricultural Business & Mgmt, General Agricultural Products and Processing, General Animal Production Farm and Ranch Management Horticulture, General
Farm Labor Supervisors	Agricultural Business & Mgmt, Gen. Agronomy	Farm and Ranch Management
Farm Managers	Agricultural Business Agricultural Business & Mgmt, Gen. Agronomy Animal Sciences, General Animal Sciences, Other Range Management	Agricultural Business & Mgmt, Gen. Agricultural Products and Processing, General Animal Production Farm and Ranch Management
Fashion Coordinators	Family Relations Textiles and Clothing Visual Arts	Fashion/Fabric Coordination Fashion Merchandising
Flight Attendants	This occupation is applicable to numerous programs.	
Flight Engineers	Aero-Space Engineering Engineering, Other	
File Clerks		General Office Clerk Typing, General Office, and Related Programs
Film Bookers	Radio/Television, General	
Film Editors	Radio/Television, General	

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Financial Analysts	Agricultural Business Business & Mgmt, General Business Management Economics Finance Marketing	
Fire Fighters	Technology	Firefighting
Fire Inspectors	Technology	Firefighting
Fire Officers	Technology	Firefighting
Fish and Game Wardens	Animal Sciences, Other	
Fitters, Instrument and Pipe Laying		Heating and Air Conditioning Plumbing
Food Service Workers, Other	Food Sciences and Human Nutrition Hotel/Motel/Restaurant Mgmt.	Food Production, Mgmt, and Services, General
Forestors and Conservation Scientists	Animal Sciences, Other Forestry and Related Sciences	Forestry Production and Processing, General Horticulture, General
Forge and Hammer Operators		Machine Tool Operation/Machine Shop
Furniture Finishers		Musical Instrument Repair
Furniture Upholsterers		Upholstering

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Gardeners and Groundskeepers, except Farm	Parks and Recreation	Forestry Production and Processing, General Horticulture, General
Garage Workers		Automotive Body Repair
Garment Sample Makers	Textiles and Clothing	
Gas and Electric Appliance Repairers		Small Appliance Repair
Gasoline Engine/Motor Repairers		Automotive Mechanics Small Engine Repair
General Office Clerks		General Office Clerk Typing, General Office, and Related Programs
Geologists	Geology Petroleum Engineering	
Glass Installers, Vehicle		Automotive Body Repair
Glaziers		Construction Trades, Other
Grinding Machine Operators		Machine Tool Operation/Machine Shop
Group Recreation Workers	This occupation is applicable to numerous programs where group recreational skills are acquired.	Recreational Therapy Technology
Guides, Sightseeing and Travel	Parks and Recreation	

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Health Aides, except Nursing	Psychology	Allied Health, Other Dental Assisting EMT - Paramedic Medical Assisting Medical Laboratory Technology Occupational Therapy Assisting Physical Therapy Assisting Rehabilitation Services, Other
Health Record Technologists	Medical Records Admin.	Medical Records Technology
Health Technologists/ Technicians, Other	Anthropology Biology Chemistry Health Care Administration Health Sciences, Other Medical Technology Medical Records Admin. Occupational Therapy Physical Therapy Zoology	Animal Production EMT - Paramedic Medical Laboratory Technology Nursing, General Rehabilitation Services, Other Surgical Technology
Heavy Equipment Operators		Construction Trades, Other Heavy Equipment Maintenance and Repair Vehicle and Equipment Operation, General
Household Appliance Installers, Repairers		Electrical and Electronics Equipment Repair, General Small Appliance Repair
Hydroelectric Machine Mechanics		Agricultural Mechanics, General Diesel Engine Mechanics Heavy Equipment Maintenance and Repair

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Industrial Engineering Technicians	Vocational Education	Electronic Technology Engineering and Engineering Related Tech, Other Environmental Control Tech, Other
Inspectors	Agricultural Business Agricultural Business & Mgmt, Gen. Agronomy Food Sciences and Human Nutrition Life Sciences, Other Political Science and Government Technology Vocational Education	Chemical Technology Criminal Justice Tech Insurance Marketing, Gen Mechanical Design Technology Occupational Safety and Health Technology Protective Services, Other Quality Control Technology
Instructors, Driving	Technology Vocational Education	Vehicle and Equipment Operation, General
Instructors, Reducing	Food Sciences and Human Nutrition Health and Physical Education Parks and Recreation	
Instrument Assemblers		Electromechanical Instrumentation/Maint Tech, Other
Instrument Repairers		Electromechanical Instrumentation/Maint Tech, Other Laser Electro-Optic Tech
Insurance Checkers		Firefighting Insurance Marketing, General Medical Records Technology
Insurance Investigators/Special Agents	Accounting Criminal Justice Studies Finance	Firefighting Insurance Marketing, General Legal Assisting
Insurance Raters	Mathematics	Accounting and Computing Business Data Programming
Insurance Sales Agents/ Representatives	This occupation is applicable to numerous programs.	Insurance Marketing, General

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Jewelers and Silversmiths		Jewelry Design, Fabrication and Repair Watch Repair
Keypunch Operators		Business Computer and Console Operation Business Data Programming Data Processing Word Processing
Lathe Machine Operators, Metal		Machine Tool Operation/Machine Shop
Law Clerks	Law	
Lawyers	Law	
Layout Markers, Metal		Drafting and Design Technology Drafting, General Machine Tool Operation/Machine Shop
Lease Buyers	Geology Marketing Petroleum Land Management	
Lens Grinders		Laser Electro-Optic Tech Ophthalmic Dispensing
Letter Press Operators		Graphic and Printing Communications, General
Letterset Press Operators		Graphic and Printing Communications, General
Librarians	Education, Other Elementary Education Library Science Secondary Education	

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Library/Technical Assistants	Elementary Education English History Library Science Secondary Education	Legal Assisting Library Assisting
Licensed Practical Nurses		Nursing, General Practical Nursing
Life and Physical Scientists, Other	Animal Sciences, Other Biology Geography Life Sciences, Other Physics	
Line Installers and Repairers		Electrical and Electronics Equipment Repair, General Industrial Electronics
Liquefaction-Regasification Plant Operators		Electromechanical Instrumentation/Maint Tech, Other Engineering and Engineering Related Technology, Other Heavy Equipment Maintenance and Repair
Loan Closers	Business & Mgmt, General Finance	
Locomotive Engineers and Helpers		Transportation and Travel Marketing, General
Log and Lumber Inspectors, Graders	Forestry & Related Sciences	Forestry Production and Processing, General
Logging Tractor Operators		Vehicle and Equipment Operation, General

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Machine Assemblers		Industrial Production Technologies, Other
Machine Operatives		Agricultural Products and Processing, General Chemical Technology Forestry Production and Processing, General Industrial Production Technologies, Other Machine Tool Operation/Machine Shop Petroleum Technology
Machine Operators		Machine Tool Operation/Machine Shop
Machine Setters, Paper Goods		Forestry Production and Processing, General
Machine Tool Operators/Setters		Machine Tool Operation/Machine Shop
Machinists		Machine Tool Operation/Machine Shop Mechanical Design Technology
Magistrates	Law	
Mail Carriers		Mail and Order Clerk
Mail Clerks*		General Office Clerk Mail and Order Clerk
Maintenance Mechanics		Agricultural Mechanics, General Automotive Mechanics Diesel Engine Mechanics Heavy Equipment Maintenance and Repair Plumbing
Maintenance Repairers, Utilities		Building Maintenance
Managers, Auto Service and Parts	Business Management Marketing	Automotive Body Repair Automotive Vehicles and Accessories Marketing Marketing Management
Managers, Others	This occupation is applicable to numerous programs where managerial skills are acquired.	

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Managers, Restaurant, Cafe and Bar	Food Sciences & Human Nurtition Home Economics, General Hotel/Motel/Restaurant Mgmt. Business Management	Dietetic Aide/Assisting Food Marketing, General Food Production, Mgmt, and Services, General Restaurant Management
Managers, Sales/Retail Trade	Advertising Business and Management, Gen. Business Management Family Relations Finance Home Decorating Home Economics, General Marketing Speech, Debate and Forensics Textiles and Clothing	Agricultural Services & Supplies, Gen Automotive Mechanics Barbering Cosmetology Fashion Merchandising Food Marketing, General General Marketing Interior Design Marketing Management
Managers, Store	Business and Management, Gen. Business Management Finance Home Decorating Home Economics, General Marketing Textiles and Clothing Visual Arts, General	Agricultural Services & Supplies, Gen Automotive Mechanics Barbering Cosmetology Fashion Merchandising Food Marketing, General General Marketing, Other Graphic and Printing Communications, General Interior Design Marketing Management
Manicurists		Barbering Cosmetology
Marine Mechanics and Repairers		Heavy Equipment Maintenance and Repair
Market Research Analysts	Business and Management, Gen. Economics Marketing Sociology	
Mathematical Specialists	Mathematics	
Mathematicians	Mathematics	
Mattress Makers		Upholstering

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Mechanical Engineering Technicians	Mechanical Engineering Physics	Engineering and Engineering Related Technology, Other Heavy Equipment Maintenance and Repair Mechanical Design Technology
Mechanics and Repairers, Other		Agricultural Mechanics, General Heavy Equipment Maintenance and Repair Industrial Production Technologies, Other Small Engine Repair
Mechanics, Sewing Machine		Small Appliance Repair
Media Analysts	Advertising English Journalism (Mass Communications) Marketing Radio/Television, General	General Marketing, Other
Media Buyers	Advertising Journalism (Mass Communications) Marketing Radio/Television, General	General Marketing, Other
Medical Assistants	Nursing, General Occupational Therapy	
Medical and Dental Technologists		Dental Assistants Dental Hygiene Dental Laboratory Technology Medical Assisting
Medical Laboratory Assistants	Biochemistry/Biophysics Biology Chemistry Health Sciences, Other Medical Technology Nursing, General Zoology	
Medical Laboratory Technologists	Biochemistry/Biophysics Medical Technology Nursing, General Zoology	Biomedical Equipment Tech Medical Assisting Medical Laboratory Tech Radiograph Medical Tech Surgical Technology

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Medical Records Technologists	Health Care Administration	
Medical Scientists	Dentistry, General Life Sciences, Other Medical Technology Medicine, General	
Merchandise Displayers	Home Decorating Textiles and Clothing Visual Arts	Commercial Art Interior Design
Milliners	Textiles and Clothing	
Mixer Operators		Architectural Design and Construction Technology
Mixing Operatives		Agricultural Products and Processing, General
Mobile Home Repairers		Automotive Body Repair Heavy Equipment Maintenance and Repair
Mobile Home Set-Up Operators		Automotive Body Repair Heavy Equipment Maintenance and Repair
Motion Picture Projectionists		Radio/TV Production and Broadcasting Technology
Music Directors	Music, General	
Musical Instrument Repairers		Musical Instrument Repair
Musicians, Instrumental	Music, General	Musical Instrument Repair

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Nurses Aides and Orderlies		Allied Health, Other EMT - Paramedic Medical Assisting Medical Laboratory Tech Nursing Assisting Nursing, General Occupational Therapy Assisting Practical Nursing Respiratory Therapy Tech Surgical Technology
Nurses, Professional	Nursing, General	Nursing, General

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Observers, Electrical and Gravity	Geology Physics	
Office Clerical, Other		Business Administration and Management, General Business Data Programming General Office Clerk Medical Records Technology Nursing Assisting Sec. & Related Programs, Gen. Ward Clerk
Office Machine and Cash Register Servicers		Electromechanical Instrumentation/Maint Tech, Other Industrial Electronics
Office Machine Operators, Other		General Office Clerk Sec. & Related Programs, Gen. Word Processing
Offset Lithographic Press Operators		Graphic and Printing Communications, General
Operators, Mixer		Architectural Design and Construction Technology
Operators, Telephone and Directory		Communication Technologies, Other
Operators, Telephone Switchboard		Communication Technologies, Other Sec. & Related Programs, Gen.
Opticians, Dispensing and Optical Mechanics	Optometry	Ophthalmic Dispensing
Optometrists	Optometry	

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Packers/Inspectors		Agricultural Products and Processing, General
Painters, Aircraft and Automotive		Aircraft Mechanics Automotive Body Repair
Painters, Commercial and Artistic	Visual Arts	Commercial Art
Painters, Maintenance		Construction Trades, Other
Painters, Production and Rubbers		Automotive Body Repair
Paperhangers		Construction Trades, Other
Paralegal Personnel	Criminal Justice Studies History Law Liberal/General Studies Political Science and Government Public Affairs, General Sociology Speech, Debate and Forensics	Legal Assisting
Parking Enforcement Officers		Criminal Justice Technology
Patternmakers, Metal, Plasters, Plastics		Drafting and Design Technology Drafting, General
Patternmakers, Pottery, Stone, Wood	Visual Arts	Drafting and Design Technology
Payroll and Personnel Clerks		Accounting and Computing General Office Clerk
Peripheral EDP Equipment Operators	Business Data Processing Computer Engineering Computer Science, General	Business Computer and Console Operation Business Data Programming Word Processing

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Personnel and Labor Relations Specialists	Business and Mangement, Gen. Business Management Education Admin/Supervision Education, Other Law Political Science and Government Psychology Public Affairs, General Social Work Sociology Spanish Speech, Debate and Forensics Student Counseling and Personnel Services	Marketing Management
Pharmacists	Pharmacy	
Pharmacy Assistants	Health Sciences, Other Life Sciences, Other Medical Technology	Allied Health, Other
Photoengravers	Visual Arts	Graphic and Printing Communications, General
Photographers	Journalism (Mass Communications) Radio/Television, General Visual Arts	Commercial Photography
Photographic Process Workers		Commercial Photography
Physical Science Technicians	Mathematics	Civil Technology Electromechanical Instrumentation/Maint Tech, Other Environmental Control Technologies, Other Mechanical Design Technology
Physical Therapy Technicians	Health and Physical Education Medical Technology Physical Therapy	Physical Therapy Assisting
Physician's Assistant	Health Professions, Other Nursing, General	

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Physicians, Medical and Osteopathic Medicine	Medicine, General	
Physicists	Astronomy Biochemistry/Biophysics Physics	
Plant Clerical, Other		Business Administration and Management, General General Office Clerk Sec. & Related Programs, Gen.
Plasterers		Construction Trades, Other
Platemakers	Visual Arts	Graphic and Printing Communications, General
Plumbers and Pipefitters		Heavy Equipment Maint. & Repair Plumbing
Podiatrists	Medicine, General	
Police Detectives	Criminal Justice Studies	Criminal Justice Technology
Police Officers	Criminal Justice Studies	Criminal Justice Technology
Police Patrolpersons		Criminal Justice Technology
Postal Clerks		Mail and Order Clerk
Postmasters and Mail Superintendents	Business Management	Mail and Order Clerk Marketing Management
Power Station Operators		Electrical Technology
Press Operators and Plate Printers		Graphic and Printing Communications, General
Principals and Superintendents	Education Admin/Supervision Education, Other	
Printing Strippers		Graphic and Printing Communications, General
Production Coordinators	Industrial Engineering Technology Vocational Education	Industrial Production Technologies, Other Quality Control Technology
Professional Workers, Other	This occupation is applicable to numerous programs where managerial, administrative or technical skills are acquired.	
Proof Machine Operators		Banking Marketing
Proofreaders	English Library Science Sec. & Related Programs, Gen.	Legal Assisting
Protective Signal Installers and Repairers		Electrical and Electronics Equipment Repair, General
Psychiatric Aides	Psychology Special Education	Allied Health, Other Medical Assisting Mental Health/Human Services and Technology Occupational Therapy Assisting Rehabilitation Services, Other
Psychologists	Psychology	
Public Relations Specialists	Advertising Business Management Dramatic Arts English Foreign Lang., Multi-Emphasis Journalism (Mass Communications) Liberal/General Studies Marketing Public Affairs, General Radio/Television, General Spanish Speech, Debate and Forensics	Fashion Merchandising General Marketing, Other
Pumpers, Oil and Gas		Petroleum Technology
Pump Station Operators, Waterworks		Engineering and Engineering-Related Tech, Other

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Punch Press Operators, Metal, Plastic		Machine Tool Operation/Machine Shop
Punch Press Setters, Metal		Machine Tool Operation/Machine Shop Sheet Metal
Purchasing Agents and Buyers	Advertising Agricultural Business Business and Management, Gen. Business Management Economics Finance Health Care Administration Marketing Medical Records Admin. Petroleum Land Management Textiles and Clothing	General Marketing, Other Interior Design

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Radio and TV Repairers		Electrical and Electronics Equipment Repair, General
Radio Operators	Technology	Communication Technologies, Other Electrical and Electronics Equipment Repair, General
Radiologic and Nuclear Medical Technologists	Health Sciences, Other Medical Technology	Allied Health, Other Nuclear Technologies, Other Radiograph Medical Technology
Railroad Police	Criminal Justice Studies	Criminal Justice Technology
Real Estate Agents		Real Estate, General
Real Estate Appraisers	Real Estate Agents Marketing	Real Estate, General
Real Estate Brokers	Business and Management, Gen. Marketing Petroleum Land Management	Real Estate, General
Receptionists, Hosts and Hostesses	Graduates from numerous programs meet the requirements for these occupations.	Cosmetology Sec. & Related Programs, Gen.
Recording and Reproduction Technicians	Radio/Television, General	Radio/TV Production and Broadcasting Technology
Recreation Facility Attendants	Parks and Recreation	
Reservation Agents		Air Transportation, General Aviation Management
Right-of-Way Agents	Architecture Civil Engineering Political Science and Government	
Roofers		Construction Trades, Other Sheet Metal

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Safety Inspectors	Civil Engineering Technology	Civil Technology Occupational Safety and Health Technology Protective Services, Other
Sailors and Deckhands		Oceanographic (Physical) Technology
Sales Agents and Representatives, Insurance		Insurance Marketing, General
Sales Agents and Representatives, Real Estate	Business and Management, Gen. Home Decorating Marketing Petroleum Land Management	Real Estate, General
Sales Agents, Financial Service and Securities	Business Management Economics Finance Marketing Mathematics	Banking Marketing Credit Marketing
Sales Clerk Supervisors	Marketing Textiles and Clothing	Agricultural Business & Mgmt, Gen. Farm and Ranch Mgmt. Fashion Merchandising General Marketing, Other Marketing Management
Sales Workers and Sales Clerks		Agricultural Products and Processing, General Automotive Vehicles and Accessories Marketing Farm and Ranch Management Fashion/Fabric Coordination Fashion Merchandising General Marketing, Other Horticulture, General
Sawyers		Architectural Design and Construction Technology Construction Trades, Other
Scalp Treatment Operators		Barbering Cosmetology

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Science Technicians	Astronomy Geography Life Sciences, Other Mathematics Physics Technology Zoology	This occupation is applicable to numerous programs where science technician skills are acquired.
Secretaries	Sec. & Related Programs, Gen. This occupation is also applicable to many other programs where office skills are acquired.	Business Administration and Management, General Business and Office, Other General Office Clerk Medical Records Technology Sec. & Related Programs, Gen. Word Processing
Securities, Traders, and Specialists	Business Management Economics Finance Marketing	Banking Marketing
Service Observers and Representatives	Home Economics, General Marketing	Marketing Management Quality Control Technology
Shampooers		Barbering Cosmetology
Shear and Slitter Setters		Machine Tool Operation/Machine Shop Sheet Metal
Sheet Metal Workers		Heating and Air Conditioning Sheet Metal Welding, Brazing, and Soldering
Sheriffs and Sheriff's Officers	Criminal Justice Studies	Criminal Justice Technology Protective Services, Other
Ship Captains and Pilots	Engineering, Other Technology	Oceanographic (Physical) Tech Transportation and Travel Marketing, General
Ship Engineers	Engineering, Other Mechanical Engineering	
Shipfitters		Heavy Equipment Maintenance and Repair
Shipping Packers		Mail and Order Clerk
Singers	Music, General	

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Social Scientists, Other	Anthropology Economics History Liberal/General Studies Philosophy Political Science and Government Psychology Social Sciences, General Social Work Sociology	
Station Agents		Air Transportation, General Aviation Management
Station Installers		Electrical and Electronics Equipment Repair, General Industrial Electronics
Stationary Engineers		Engineering and Engineering Related Tech, Other Heavy Equipment Maintenance and Repair
Statistical Clerks	Mathematics	Business Computer and Console Operation Business Data Programming Typing, General Office, and Related Programs
Stenographers	Sec. & Related Programs, Gen.	Sec. & Related Programs, Gen.
Stock Clerks		Automotive Vehicles and Accessories Marketing Food Marketing, General General Marketing, Other
Stone Masons		Architectural Design and Construction Technology
Store Detectives	Criminal Justice Studies	Criminal Justice Technology Protective Services, Other
Structural Steel Workers		Construction, Trades, Other
Statisticians	Mathematics	

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Supervisors, Nonworking	This occupation is applicable to numerous programs where supervisory skills are acquired.	
Survey Workers	Anthropology Mathematics Public Affairs, General Social Sciences, General Sociology	Typing, General Office and Related Programs, General
Surveyors	Civil Engineering Forestry and Related Sciences Geography	Civil Technology Drafting and Design Technology Drafting, General
Surveyor Helpers		Civil Technology
Surgical Technicians	Medical Technology Nursing, General	Nursing, General Practical Nursing Surgical Technology

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Tabulating Machine Operators		Banking Marketing
Tax Examiners/ Collectors	Accounting Economics Finance Law Political Science and Government Public Affairs, General	Accounting and Computing
Tax Preparers	Accounting Finance Law	Accounting and Computing Legal Assisting
Teachers, Adult Education	Dramatic Arts Education, Admin/Supervision Education, Other English History Music Philosophy Religion Secondary Education Speech, Debate and Forensics Visual Arts, General Vocational Education	Occupational Therapy Assisting
Teacher Aides	This occupation is applicable to numerous programs where educational skills are acquired.	Mental Health/Human Services Technology Rehabilitation Services, Other Teacher Aide
Teachers, College	This occupation is applicable to most graduate and professional level programs - see particular academic field of interest.	
Teachers, Elementary	Bilingual Education Education, Other Elementary Education Health and Physical Education Special Education	
Teachers, Other	This occupation is applicable to numerous programs where teaching skills are acquired.	
Teachers, Preschool/ Kindergarten	Bilingual Education Elementary Education Special Education	Teacher Aide

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Teachers, Secondary	Bilingual Education Education, Other Health and Physical Education Secondary Education Special Education Vocational Education	
Teachers, Vocational and Training	Vocational Education	
Technical Directors, Radio/TV	Dramatic Arts Journalism (Mass Comm.)	Radio/TV Production and Broadcasting Technology
Technical Operators, Oil and Gas	Petroleum Engineering	Petroleum Technology
Technicians, Other	Chemical Engineering Life Sciences, Other	Jewelry Design, Fabrication and Repair Solar Heating and Cooling Technology Watch Repair
Telephone Installers/ Repairers		Electrical and Electronics Equipment Repair, General
Television Camera Operators	Radio/Television, General	Radio/TV Production and Broadcasting Technology
Testers		Electromechanical Instrumentation/Maint Tech, Other Quality Control Technology
Textile Operators, Semiskilled		Upholstering
Therapists, Corrective and Physical	Occupational Therapy Physical Therapy	
Therapists, Inhalation	Physical Therapy	Respiratory Therapy Technology
Therapists, Occupational	Occupational Therapy	
Therapists, Other	Health Sciences, Other Nursing, General Speech, Debate and Forensics	
Therapists, Recreation	Music Occupational Therapy Physical Therapy Psychology	

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Therapists, Speech and Hearing	Health Sciences, Other Special Education Speech, Debate and Forensics	
Ticket Agents		Air Transportation, General Aviation Management
Tile Setters, Floor Layers		Construction Trades, Other
Timber Cruisers	Forestry & Related Sciences	Forestry Production and Processing, General
Title Examiners and Abstractors	Law Marketing	Real Estate, General
Tool and Die Makers/ Setters		Machine Tool Operation/Machine Shop
Tool Programmers		Mechanical Design Technology
Traffic Technicians	Civil Engineering Engineering, Other Public Affairs, General	Civil Technology
Transportation Agents	Business and Management, Gen.	Air Transportation, General Aviation Management Transportation and Travel Marketing, General
Travel Agents	Foreign Lang., Multi-Emphasis Marketing Spanish	Transportation and Travel Marketing, General
Travel Counselors	Home Economics, General	Transportation and Travel Marketing, General
Treatment Plant Mechanics		Engineering and Engineering Related Tech, Other Heavy Equipment Maintenance and Repair
Trouble Locators, Test Desk		Electrical and Electronics Equipment Repair, General
Trouble Shooters, Power Line		Electrical and Electronics Equipment Repair, General Electrical Technology

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Turbine Operators		Engineering and Engineering Related Tech, Other Heavy Equipment Maintenance and Repair
Typists		Business and Office, Other General Office Clerk Sec. & Related Programs, Gen. Typing, General Office, and Related Programs Word Processing

CROSS REFERENCE OF OCCUPATIONS AND RELATED PROGRAMS

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Underwriters		Insurance Marketing, General
Upholsterers		Upholstering
Urban and Regional Planners	Architecture Geography Political Science and Government Public Affairs, General Social Sciences, Other Sociology	
Veterinarians	Veterinary Medicine	
Vocational Education Counselors	Criminal Justice Studies Education, Other Psychology Social Science, General Social Work Sociology Special Education Student Counseling and Personnel Services	Rehabilitation Services, Other
Watchmakers		Jewelry Design, Fabrication and Repair Watch Repair
Welders and Flamecutters		Automotive Body Repair Welding, Brazing, and Soldering
Welfare Eligibility Workers	Psychology Social Work	
Welfare Investigators	Social Work Sociology	Child Care and Guidance, Mgmt and Services, Other

OCCUPATION	SENIOR COLLEGE PROGRAM	VOCATIONAL PROGRAM
Welfare Service Aides	Family Relations Philosophy Psychology Religion Social Services Sociology Spanish	
Wholesalers	Business and Management, Gen. Marketing	Agricultural Business and Mgmt, General Agricultural Services and Supplies, General General Marketing, Other
X-Ray Technicians	Health Sciences, Other Medical Technology	Allied Health, Other Nuclear Technologies, Other Radiograph Medical Technology
Yard Engineers		Transportation and Travel Marketing, General